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Competition between business ecosystems of dedicated terminals and general-purpose terminals

-Examination of platform strategy through layered structure with the game industry as an example

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Overview

Research background and purpose

Conventionally, game device manufacturers have invested in the development of hardware (HW) and set strategic prices.
Succeeded in forming a market with setting and grew as an honor student in the platform (PF) business
I've been 2. Description of the Related Art In recent years, home-use game terminals have become highly functional, and development costs have soared.
While the profit line of this dedicated terminal business is increasing, general-purpose terminals such as smartphones
As the number of light users continues to shift due to the expansion into the last-generation game market, the PF dedicated game terminals are becoming profitable.
is in a state of rapid decline.

Just as word processors were replaced by personal computers in the past, "dedicated terminals are destined to be replaced by general-purpose terminals."
", "What kind of cause and effect will give birth to a new business model and change the industrial model?"
The starting point of this research is the awareness of the problem of

Conventionally, the game business is discussed from the perspective of PF, centering on dedicated game terminals. But Yu
Users and software development companies are overlapping as "stakeholders" of dedicated terminals and general-purpose terminals.
In light of this situation, the game business will have a bird's-eye view of the business related to both terminals.
need to be analyzed. Therefore, this research focuses on "What is happening in the game business now?"
Through the analysis of the industry structure model, it is possible to model and analyze both industrial models in a broad perspective.
It is intended to Specifically, the research aims to clarify the following three points.

(1) What kind of industrial model will the game terminal PF have in response to changes in technology and changes in the external/internal environment?
Have you changed in any way?

(2) In the industrial model centered on dedicated terminals and the industrial model centered on general-purpose terminals,
How Year's Business Models Interacted

ÿ How can general-purpose terminal game services form a business model and grow rapidly?

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Furthermore, through the analysis of the above three points, we can conclude that recent game platform
It shows the shift from a terminal PF to a service-oriented PF centered on services, and how production
The purpose is to clarify whether the industry model is changing.

Defining Research Objects and Markets

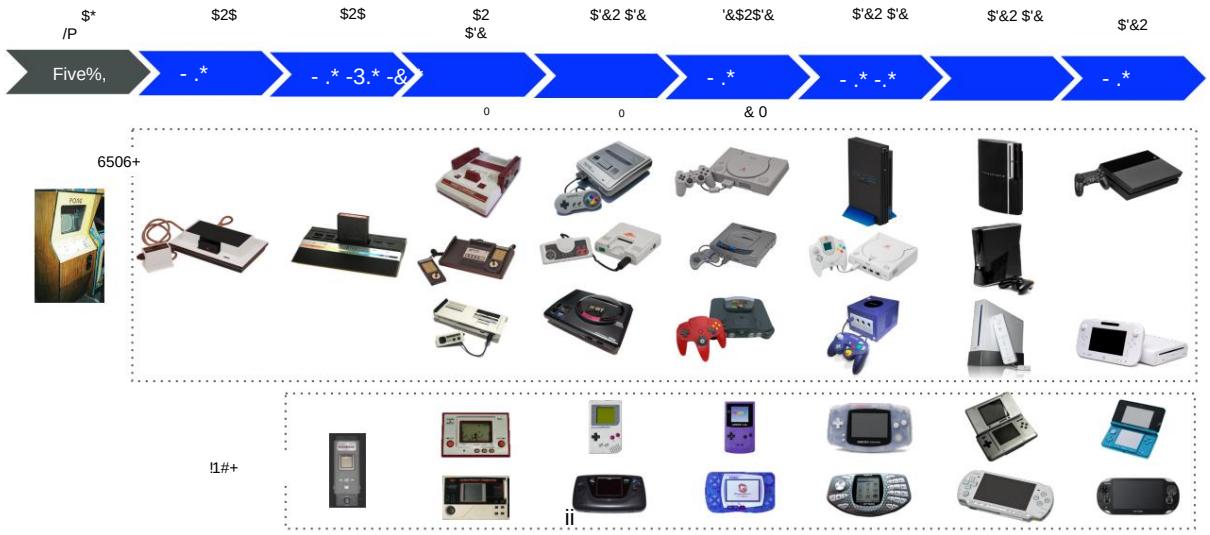
The markets targeted for analysis in this research are “game-dedicated terminals” and “general-purpose terminal game services.”
do.

Game-dedicated terminal: A general term for HW equipment for running game software (SW).
Arcade game machines for running games found at home centers, etc., and ordinary homes
They can be broadly classified as home-use game terminals intended for playing.
In particular, it mainly analyzes home-use game terminals. In addition, even for home-use game terminals, TV
A "stationary machine" that can be connected to and play games with, and a small game that has a screen and can be carried around.
categorized into “handheld game (portable) terminals,” which are home consoles, for analysis.

General-purpose terminal game service: A general-purpose terminal is a terminal that can operate multiple functions depending on the SW.
It refers to HW that can It works mainly on PCs and mobile phones (smartphones) as targets.
Handles game software and cloud services.

Game terminals are precision machines that require high processing power such as graphics processing and arithmetic processing.
Since it is a device, it has been linked with the development of computers since game terminals appeared in the 1970s.
is evolving. In addition, the business of dedicated game terminals is not just for a single year but for several years.
It is formed and is often classified and compared by "generation" through CPU performance. main research
In our research, we also use the concept of generations as shown in Figure 1 to analyze the time axis.

Chart 1 Game generation



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Setting research methods and key concepts, and organizing previous research

This research conducted a case analysis through the perspective of the layered structure,
build a business model for the company. As the data used in the research,
Focusing on public data, statistical data by published research institutions, and published books,
Interview articles will also be used as a reference if necessary. Also, set the key concepts as follows:
be.

· platform

A base that functions as the core of a system product used by a customer and that has value when integrated with complementary products.
It is a board product. In this research, we consider platform products as the core of system products used by customers.
A platform product that functions as a platform and has value when combined with complementary products, and an intermediary platform
leverage transactions between third parties through the supply of goods and services that
The game terminal is a platform
Products and general-purpose terminal game services will be discussed as an intermediary platform.

• Complementary players and ecosystem

Complementary players are those who realize value together with PF or increase the value of PF
A company that provides products or services. Products and services offered by complementary players
are described as complementary products. In the PF of game-dedicated terminals and general-purpose terminal game services, software
Software developers will be complementary players, and software products will be complementary products. (and
Lew Grove, 1997)

An ecosystem is a partnership in which multiple companies form partnerships in product development and business activities.
While making use of each other's technology and capital,
It is defined as a mechanism that involves people and society and coexists and co-prospers widely beyond the boundaries of industry and national borders.
In the game business, it refers to a system for building competition with software development companies.

•Two-side market and two-side platform

In the game business, there
There are two sides of game development companies that develop SW (services). Game PF is SW's
In order to create diversity, it is necessary to involve multiple game development companies.

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Formation of the stem is important. Also, how is intra-side network and inter-side network
The existence of a network effect, such as whether or not the network works
is one of the causes of the phenomenon called WTA (Winner-Takes-All) (Negoro and Kato, 2010), (Rochet
and Tirole 2003), (Eisenmann, Parker and Van Alstyne, 2006)

•Layer structure

Conventional industrial theory has traditionally been viewed in terms of value chains, but there is a new emergence.
It is an industry with a layered structure. In the layered structure, the user has
Products, services, and information can be directly selected and used in combination. In this structure:
It mediates the selection of products, services, and information on each layer, and is a prerequisite for functioning.
service becomes the “platform”. A game where the user directly selects between hardware and software
Business is best represented using a layered structure. (Negoro and Fujimaki, 2013)

In research on “changes in game models” in the game industry (Kameda 2010),
Place, hardware, software, online charge as layers that make up the business
Although it was expressed by the ear structure, this research developed it and
After dividing into the work layer, hardware, OS, software development environment, software, user ID, content distribution
It is expressed in a layered structure of communication PF and distribution type content.

•Industrial model and business model

With reference to the relationship between industrial models and business models (Negoro and Minowa 2001),
The “industry model” that expresses the common structure of the business models of major players and the
We use the concept of “business model”, which is a model for the “business” structure of main research
In , existing players and new players propose new layer structures and realize them.
“Industrial model change”, changing the entry layer based on the existing layer structure
and change the open policy for each layer to increase the attractiveness of products and services.
and to improve profitability is defined as a “change in business model.”

Characteristics of the game business and sorting out the market situation

Game-dedicated terminals require advanced computer technology such as graphics processing and arithmetic processing.
It is HW that can be used by Nintendo, Sony, etc. to specialize in the development of game terminals.
Capable companies have been successful in creating PF.

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Due to the nature of the terminal, manufacturing HW is expensive, so the main target of the game
The price will be unaffordable for the young generation who are the stratum. To solve this problem, the same model
In addition to mass production of SW, SW is licensed and PF can obtain license revenue
By doing so, HW can be compensated with license even if it is on the margin of profit line or in the red.
By making it possible to load, we have realized a model that delivers HW to users at low cost. Such
The licensed PF business model was a great success during the game popularization period, but
Due to the business structure of “locking in” hardware, companies that want to release games to multiple PFs
For users whose work and games they are interested in span multiple HW,
``Multi-homing'', which requires the investment of having to select multiple
It has a difficult structure. On the other hand, in the process of technological evolution, the transition of HW generations progresses.
Therefore, it is standard practice to increase switching costs by maintaining compatibility, but
There is a tendency that the compatibility of past SW is not regarded as important in system-dedicated terminals. game only
In the process of the evolution of terminals, the game software itself has become more complex, and the number of users in Japan and overseas has increased.
Although the demographic is different, users who want light games are not dedicated terminals, but smartphones.
There is a trend toward general-purpose terminal type games.
With the evolution of computer technology, development costs for dedicated game terminals are soaring.
Although it is a situation that cannot be passed on to the selling price due to the model, mass production to solve this
Due to the rise of general-purpose terminal game services, it is becoming difficult to reduce costs by game
Realization of structural risks in the business model for dedicated mobile terminals is leading to an increase in deficits
It can be inferred that it is the situation.

Consideration of the evolution of the industrial model through the analysis of winning patterns of dedicated game machines

In analyzing the winning patterns of game PFs of each generation, we consider “media on the Internet.
WTA status of type platform services” (Negoro and Ohtake 2010) and “Hardware quality vs.
winner in the market for network size in the home video game industry” (Gretz 2010).
With reference to the definition, the PF with a share of 50% or more is the Winner among the dedicated game terminal PFs of the same generation.
defined as On top of that, the layers focused and strengthened by the market leaders in each generation
- is defined as the critical layer, and the leader position from the 1st generation to the 8th generation
, the characteristics of the business model of each dedicated terminal PF and the process of change in the critical layer
was analyzed and the evolution of the industrial model was considered.

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Through this analysis, we have clarified the following.

(1) If WTA is achieved in the previous generation, we will take a strong position in the next generation as well.

(2) Next-generation consoles that effectively utilize the resources of the previous generation will take a strong position

(3) Next-generation machines that overcome the improvements of the previous generation will take a strong position

(4) The critical layer that becomes KFS is the network from the lower layer of the client layer.

Shifting to a higher layer of clay (Chart 2)

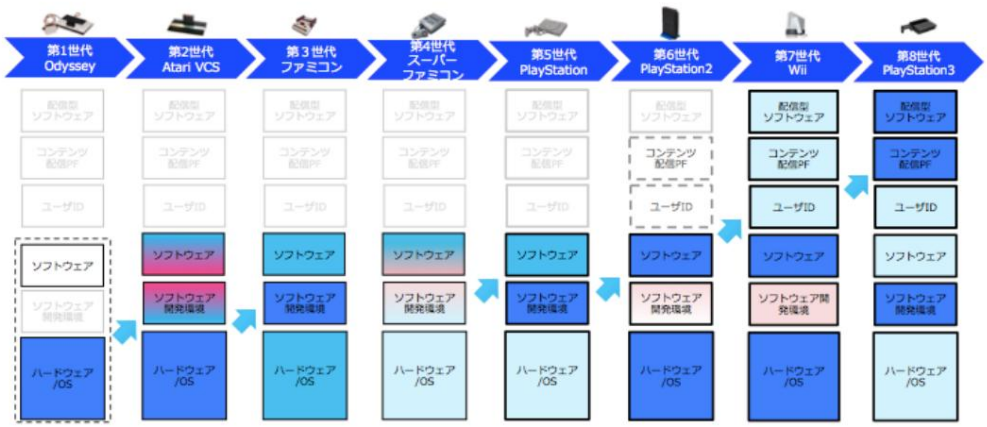
(5) The PF that became the market leader has the functions to ensure the quality of SW, and the participation of SW developers.

Enhancement of functional design such as functions to encourage entry and functions to promote communication between users

Through this, the entire PF will be strengthened, and excellent functions will be inherited by the next-generation PF regardless of the company.

Also, there is a tendency for such functional enhancements to move to higher layers.

Figure 2 Layer changes in the winner's industrial model in each generation



Consideration of interaction between business models of dedicated terminal and general-purpose terminal game services

When comparing the business models of game-dedicated terminals and general-purpose terminal game services, each

What kind of interactions have there been in the business model in the process of technological evolution?

Whether they competed in the process and took in each other's strengths, analysis through analysis of layer structure

gone.

In this analysis, we focused on the "place" that users use, and intended to be used mainly at home.

Game software and services that run on dedicated game consoles and personal computers, mainly outside the home

Runs on portable game terminals and mobile phones (including smartphones) intended for use in

By comparing the layer structure of game SW and services created in each generation, business

The interaction between model and industry model is verified.

Through this analysis, we have clarified the following.

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ÿ The game business is a market that is growing rapidly from the 7th generation to the 8th generation. game

The market is often evaluated based on the combined sales of dedicated terminal HW and SW, and from that perspective

is said to be declining in the market, but the number of games is increasing through comparison with general-purpose terminal services.

You will be able to think of the purpose as "software". From this point of view,

When looking at the total transition of the market for software for game consoles and the market for game services for general-purpose terminals, business

is an expanding industry. (Chart 3)

Figure 3 Trends indicating that the game market is expanding

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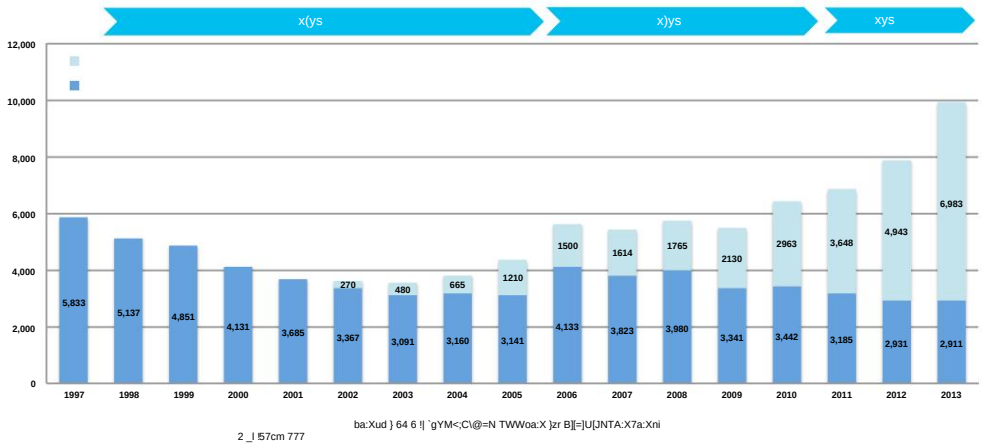

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(2) The general-purpose terminal game service was designed through the success of the past dedicated game terminal business.

Incorporating many excellent functions such as "game review", "communication", and "openness"

A business that evolves over time through interaction with game software development companies and game users, such as

Adopt business strategy. (Chart 4)

Furthermore, the emergence of general-purpose terminal game services brought about a major transformation from the 5th generation to the 6th generation.

This is due to the spread of home broadband lines and the popularization of mobile networks.

It can be inferred that the development of communication technology such as After this change, "online distribution

through “changes in industrial models due to the spread of casualties” and “changes in business models due to

It can be seen that the number of users is increasing rapidly.

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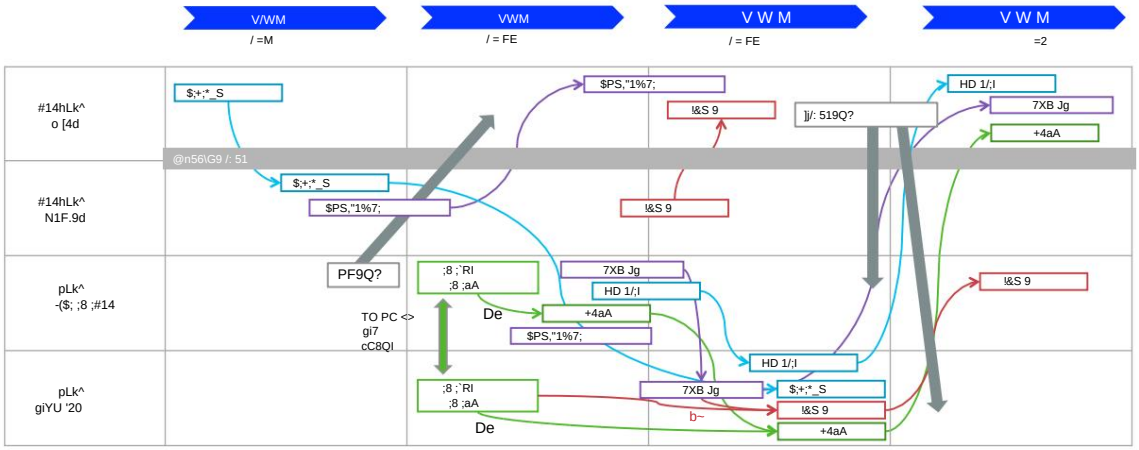
Figure 4 Development of dedicated terminals and general-purpose terminals and arrangement of interactions



(3) Evolving the business model of dedicated game terminal PF and general-purpose terminal type game service

When comparing through structure, similar to the above-mentioned winning pattern analysis of dedicated game terminal PF, focus

It can be considered that the layer with

Consideration of Ecosystem Formation and Revenue Model for General-Purpose Terminal Game Services

In analyzing why general-purpose terminal game services were able to achieve rapid growth,

How each PF in the terminal game service forms a revenue model/ecosystem

We analyzed the business model through comparison of the layer structure.

Specifically, "game dedicated terminal", "SW distribution PF for PC", "SNS system PF for PC & mobile phone",

"Japan Career PF", "Smartphone PF iOS" and "Smartphone PF Android"

and what layer we will invest in as our main service, and in what

We made a structural comparison to see if these layers are profitable from users.

An industry that deserves particular attention is SNS-related PFs, and games to revitalize the SNS business

Since its introduction, we have introduced an item-type billing mechanism to reduce machine loss and time limits for users.

By controlling the kind of "hunger" that fuels them, they succeeded in raising high profits.

This system will be supported by data-driven management, and system

game industry, such as updating methods and developing systems according to user trends.

It changed the business model significantly.

Through this analysis, we found that

(1) Due to the development of communication technology mentioned above, PFs other than dedicated game terminal PFs are actively incorporating games.

As a result, general-purpose terminal game services have greatly expanded their user base. general terminal services

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SNS-type services and smartphones that use both advertising and item-based revenue models

Focus layers and revenue models are completely different, such as iOS PF, which generates most of the revenue from hardware

PFs are entering the game business, creating a situation of competition among multiple ecosystems. General

Now that the performance of dedicated terminals is almost on par with the performance of dedicated terminals in terms of user satisfaction,

It provides model differentiation. Such ingenuity of profit model is PF creation centered on HW

It is truly an innovation for game terminals that cannot break away from the business model that raises

It can be said that the situation is falling into a dilemma.

(2) From the perspective of two-side platforms, the user side (money side) and software

General-purpose machine PF has a higher advantage on both the software development company side (complementary side). as daily necessities

When compared to PCs and smartphones, which are spread in hundreds of millions of units around the world,

Dedicated video game consoles requiring investment of tens of thousands of yen to participate in PF Spread of PF is in the tens of millions

It is a market that will finally spread to the 100 million unit over several years. money side

Not only is there an overwhelming difference in the number of users,

In terms of game consoles, general-purpose machine game services are superior to software development companies on the supplementary side.

It is becoming a highly competitive situation. The game business is a market where inter-side networks work strongly

Therefore, it can be said that this difference in situation is an overwhelmingly disadvantageous situation for dedicated game machines.

In order to recover from this situation, it is necessary to create incentives for users or software developers.

A game that relies on a product sales business model centered on hardware

A general-purpose machine game service that can flexibly respond to the dedicated machine industry and the billing system centered on software.

Considering the situation of services, it can be considered that the situation is extremely severe.

Conclusion

From the analysis of the game business from the perspective of the layered structure, “(1) the industrial model of the dedicated game terminal PF

Changes in Dell", "(2) Interaction between industrial models and business models of general-purpose terminals and dedicated terminals",

We were able to model "(3) Changes in the business model of general-purpose terminal games and factors for their success."

(1) Game terminal PF companies strengthen/supplement functions by making use of past reflections and successes through each generation

In addition to performing

A strategy to move from the layer group to the layer group above the network layer

I have taken it consistently.

(2) The general-purpose terminal game service was designed through the success of the past dedicated game terminal business.

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Incorporating many excellent functions such as "game review", "communication", and "openness"
A business that evolves over time through interaction with game software development companies and game users, such as
Adopt business strategy. Furthermore, utilizing the development of communication technology, we will
Changes in Development Processes and Earnings Models" and "Changes in Business Models Due to Casualization"
Through the functional design of the upper layer group, we have succeeded in acquiring light users,
We have achieved the expansion of the entire game market.

(3) As a background to the high profitability of general-purpose terminal game services,
The mechanism to control "user hunger" has contributed greatly. In addition, data
In addition to changing the conventional business model of the game industry, such as driven management,
Now that the performance of general-purpose terminals is almost on par with the performance of dedicated terminals in terms of user satisfaction,
We have achieved differentiation in the profit model. The game business has become a competition between multiple ecosystems.
game-only business model that cannot break away from the business model of creating platforms centered on hardware.
For mobile devices, we are falling into an innovation dilemma.

Through the above analysis, we can see that the game business will continue to grow, centered on hardware, due to improvements in the performance of general-purpose terminals.
Dedicated terminal PF in lower layer group
It is explained through modeling that KFS is shifting to the service PF business of the Year Group.
can be clarified. Play that can generate high revenue in the game business
Ya is "hardware" from the 1st to the 5th generation, and from the 6th generation onwards
Players with less layers of "user ID" or "software content" and higher
This is evident from the gradual transition to layer groups.
By shifting the game business to a service-type PF business, players will
Appeared, and from the competition between single platforms centered on game terminals, to the software
There is a shift to multi-platform intra-competition for software developers/users (here
Multi-platform means that multiple players with different business models enter the market.
pointing to what is happening). This shift is from a manufacturing-type business in which technological evolution is the key to an entertainment industry.
It is a transition to an investment-type business that creates event content, and is a high-gambling business
This means that the industrial model itself is changing.
Through the analysis in this study, the game market has become a competition in the upper layer group.
As a result, the business environment for game device manufacturers is expected to become increasingly severe.

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be done. Will gaming device makers continue to invest in hardware?
A big decision is required as to whether investment should be shifted to software and web services.
It is time to

Future Issues Implications

This time, we have modeled the structure of changes in PF by limiting it to the game business,
In various industries such as e-book industry, music industry, electronic dictionary industry, etc.
competition is on the rise. The evolution of general-purpose machine services is not only a business model, but also an industrial model.
This time, we were able to clarify that the Applying this model to other industries
Expanding the business means expanding to existing players whose business model is centered on dedicated machine services.
It is considered that there is a possibility that it may give a big suggestion for management.

that's all

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Chapter 1 Introduction

Section 1 Research Background and Problem Awareness

Conventionally, dedicated game device manufacturers have invested in hardware development and set strategic prices.
It has succeeded in forming a market and has grown as an honor student in the platform business.
However, in recent years, as home video game terminals have become more sophisticated, development costs have risen.
soaring is happening. Even in the development of game software (game software), if it was before
Investment in development costs of 100 million units was only for major titles, but it is compatible with high-performance hardware
As a result, many games currently require billions of dollars in development costs.

Due to the rise in development costs, the level of profitability in the game business is rising.
Among them, smartphones and other general-purpose devices have “free download of game software” and “additional icons”.
By entering the game industry with a unique profit model,
It has succeeded in capturing a large user base. General-purpose terminal game platforms
In addition to the profit model, we actively promote the openness of development and
Attracting relatively low development costs, the traditional ecosystem such as game software developers
not only by attracting game players, but also by encouraging new game software developers to enter the market.
We are expanding our ecosystem. With this, a general-purpose terminal type game platform
are experiencing rapid growth, while the profitability of traditional game device manufacturers is rapidly declining.
There is one.

Even Nintendo, which has been regarded as an excellent company for many years, is moving towards high-performance gaming terminals.
As a warning bell for the development of the Wii and Nintendo DS, game development based on function rather than performance
In 2013, despite a period of great success, the business success did not last long.
In terms of financial results for 2019, operating income and operating income for the first time since entering the game terminal market in the 1980s.
The company is at a major crossroads as a game device manufacturer, with ordinary profits both in the red.
be.

As described above, smartphones, as general-purpose devices, incorporate a variety of ecosystems.
As the market expands, the continuation of the dedicated terminal business is in jeopardy. Past word processing equipment
was replaced by a personal computer and became one of multiple functions and was eliminated from the market.
Are terminals destined to be replaced by general-purpose terminals?”, “What causes new business?
The starting point of this research is the issue of whether a model will be born and bring changes to the industrial model.
be.

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Section 2 Purpose of Research

Traditionally, the game business has been discussed from the standpoint of platforms centered on dedicated game terminals. However, in recent years, the money side in the two-side platform strategy Both sides, a user and a software development company that is a complementary side, are involved in a general-purpose terminal game service. In the midst of this situation, the game business is combining game-dedicated terminals and general-purpose terminal services. It is necessary to perform a comprehensive analysis of the business model.

This research focuses on the inter-business ecosystem that has occurred in recent years with dedicated terminals and general-purpose terminal game services. Focusing on competition, after organizing the case studies and data of the game business in chronological order, The purpose is to analyze the dedicated terminals and general-purpose terminals from a global perspective through the modeling of "structure".

In particular

(1) What kind of industrial model will the game terminal PF have in response to changes in technology and changes in the external/internal environment? Have you changed in any way?

(2) In the industrial model centered on dedicated terminals and the industrial model centered on general-purpose terminals, How Year's Business Models Interacted

(3) How will the general-purpose terminal game service form an ecosystem and business model, and grow rapidly? could you make it grow

Construct a platform for each dedicated game terminal and general-purpose terminal game service I try to interpret the layered structure from the perspective of layered elements. On top of that, each pre By analyzing what layers the year is focusing on and adding functions, The aim is to extract factors that go one step further than the generally known success (or failure) factors. target.

Section 3 Research Methods

This research conducted a case analysis through the perspective of the layered structure, building a business model for a home company. As the data used in the research, the surveyed companies public data, published statistical data by research institutes, and published books Also refer to interview articles as necessary.

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Chapter 2 Definition of framework in this research and previous research

Section 1 Definition of Research Targets and Markets

1.Definition of dedicated game terminals and general-purpose terminal game services

The markets targeted for analysis in this research are “game-dedicated terminals” and “general-purpose terminal game services.” be.

"Game terminal"

A general term for hardware devices that run game software, such as game arcades. Aimed at playing arcade game machines and ordinary homes to operate the games found in In this research, we focus on It deals with analysis centering on the terminal. Also, home-use game terminals can be connected to TVs to play games. It is a “stationary terminal” where you can play games and a small portable game terminal with a screen. It will be analyzed by classifying it into "handheld game (portable) terminals." In addition, game terminals are common Although it is called a "game machine" in this research, including the intention of comparison with general-purpose terminals, Unified with the name "game terminal".

"General-purpose terminal game service"

A general-purpose terminal is a piece of hardware that can operate multiple functions depending on the software. point to The target is mainly games that run on PCs and mobile phones (mainly smartphones). and cloud-based services.

2.Definition of the concept of generation of dedicated game devices

Game terminals are precision machines that require high processing power such as graphics processing and arithmetic processing. Since it is a device, it has been linked with the development of computers since game terminals appeared in the 1970s. is evolving. In addition, the business of dedicated game terminals is not just for a single year but for several years. It is formed and is often classified and compared by "generation" through CPU performance. main research In this research, when analyzing time series, the concept of generation is used as follows.

1st generation: 1970 to 1977 Major gaming terminals Odyssey

2nd generation: 1977 to 1983 Major gaming consoles Atari VCS

3rd generation: Around 1983 to 1990 Main game terminals Family computer

4th generation: Around 1990 to around 1995 Major gaming terminals Super Famicom, PC engine, gameboy

5th generation: Around 1995 to around 2000 Major gaming terminals PlayStation,

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gasaturn, nintendo 64, gameboy color

6th generation: Around 2000 to around 2005 Major gaming terminals PlayStation 2,

GameCube, Dreamcast, Game Boy Advance

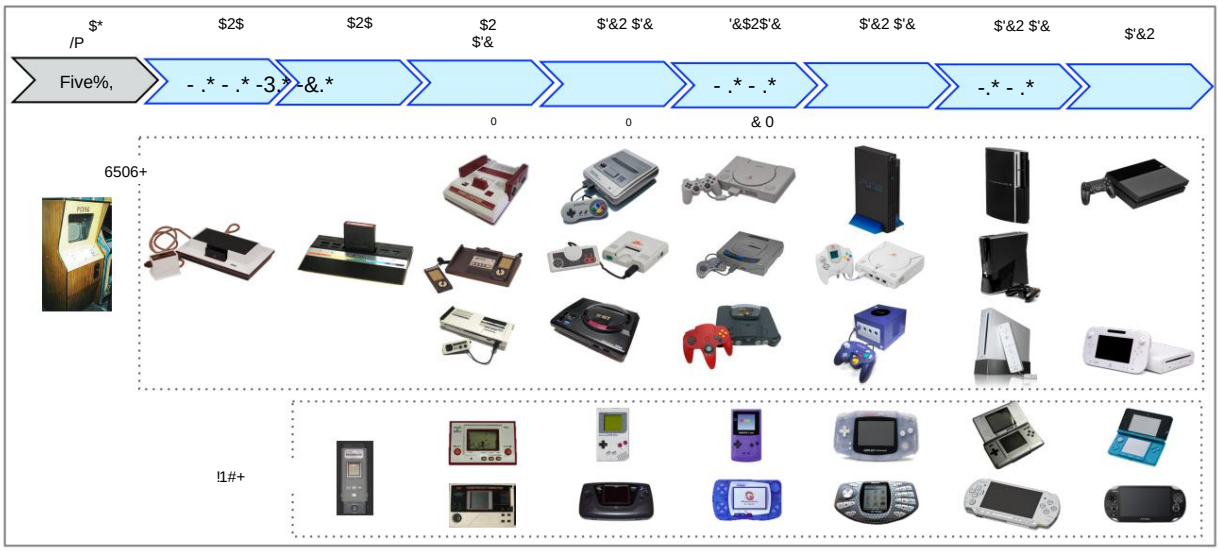
7th generation: Around 2005 to around 2001 Main game terminals Wii, PlayStation

3, Xbox360, Nintendo DS, PlayStation Portable

8th generation: Around 2010 to now Main game terminals PlayStation 4, Wii U, Niigata

Nintendo 3DS, PlayStation VITA

Chart 2-1 Definition of Game Generation



Section 2 Preceding research, reference research, and setting key concepts

1. Platform

In general, platform is a word that originally meant a stage

It is used as ``a raised place where passengers get on and off at a station, etc.'' (Kojien 5th edition).

is This word has been widely used in the world of computers and management.

It is becoming

Based on previous research on platforms, platforms are classified into three

can do. platform parts, platform parts, intermediary platform

It is mu.

A platform part is defined as a common structure for efficient development and manufacturing of derivative product families.

It is a collection of subsystems and interfaces that form a structure.

A platform product is defined as "functioning as the core of the system product used by the customer and serving as a complementary product.

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It is a basic product that has value when united.

An intermediary platform is a platform that provides products and services that anyone can receive under clear conditions.

It is a platform that activates transactions between third parties and creates new businesses through supply.

be.

In this research, based on the characteristics of dedicated game terminals and general-purpose terminal game services,

The final platform is a “platform product,” a service platform for general-purpose game terminals.

The platform promotes discussions as an “intermediary platform”.

The characteristics of the platform assumed in this research are based on the following Negoro and Kato [2006].

be.

A platform on its own, without complementary products or services, is not a customer.

of no value to Also, the final product (e.g., hardware) that includes the platform

A set of software, services, and technologies) can be grasped hierarchically,

Platform products play a role in connecting the products of upper-tier and lower-tier complementary companies.

In addition, the businesses developed by platform vendors are not aligned with the above hierarchical product structure.

There is a corresponding industrial structure. Complementaries do exist that offer complementary products. all completions

If the product is provided only by the company or group companies, it is not called a platform.

It's hard. However, in exceptional cases, including when the existence of a complement is latent.

get In other words, if there is a structure that allows other companies outside the group to enter, the results will be

This includes cases where complementary products from other companies are not provided as such.

The above must be an open interface to upper or lower layers

means

In the following, platform may be abbreviated as PF.

2. Two-Sided Markets and Two-Sided Platforms

As a feature of PF, we mentioned that it has a function to mediate multiple players, but

In economics, two (multi)-sided markets theory and

Therefore, theorization is pursued. (Caillaud and Jullien, 2003; Rochet and Tirole, 2003; Hagiu,

2008; Evans and Schmalensee, 2010)

Rochet and Tirole (2003) define Two-Sided Markets as ``two or more different types of customers.

There is a product with a PF of interest, and its customers are interdependent and collectively involved.

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It is what is expanding the PF value." For example, credit cards (cardholders and affiliates
store interactions), video posting sites (interactions between viewers and content providers, advertisers), etc.
and other two-sided markets.

Network externalities work between these two sides of the market. Net
A network externality is a phenomenon in which the greater the number of network externalities, the greater the benefit for one user.
For example, the more merchants that accept a credit card, the more convenient it is for cardholders.
The more cardholders there are, the higher the income of affiliated stores.
(Negoro and Ashiro, 2011) In a game-dedicated terminal, in a communication-type game,
For example, as the number of users increases, the benefits of functions such as online battles increase.
can be mentioned as

Eisenmann uses a two-sided platform strategy (Eisenmann, Prker and Alsytne [2006])
In the 2010 edition, we proposed a system that connects two different types of users/groups to build a single network.
The platform is defined as "products and services that do not exist". two side platform
Credit card (consumer and merchant), OS (consumer
and application developers), Internet search (search companies and advertisers), shopping malls
(shoppers and retailers), etc., but the game PF is similar to the OS in that it
Complementary role of supplying software to game users (consumers) who use services and PF (complementary services)
It consists of software development companies that do

One of the key concepts in this strategy is the network that exists between user groups.
effect" (Armstrong, 2006; Eisenmann, Parker and Van Alstyne, 2006; Eisenmann,
2007). There are two types of network effects. One is the "inter-side network effect".
is. This means that as the number of users in one group (side) increases, the number of users in the other group increases.
For loops, it is a phenomenon in which the value of PF increases or decreases.
If you look at the PDF Reader of (Adobe Systems), the PDF format published on each website
The more files there are, the more users will use PDF Reader.
be. The other is the "intra-side network effect". This means that as the number of users increases,
It refers to a phenomenon in which the value of PF increases or decreases for the group to which the user belongs.
For example, the more people you know who use PDF Reader, the more likely they are to use PDF files.
It means that it becomes easier to exchange information between people who know each other. Managing these network effects

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is one of the factors that increase the value of PFs and eventually make certain PFs a winner (Winner Take All).
It becomes one (Negoro and Ashiro, 2011). To give a specific example of dedicated gaming terminals, the more PF expands, the more
and other platforms such as online battles and other communication functions between users.
game development companies create PFs that attract many users.
positive side-to-side network that users choose PF where a lot of software is sold
It is a form that the black effect works.

Another important concept regarding two-sided platforms is the “multi-homing
It is a strike. Multi-homing means using multiple PFs in parallel.
PF cost refers to the cost that users continue to participate in PF from introduction to operation and retirement.
It refers to the total cost of The higher the multihoming cost, the higher
PF has the characteristic that it is easy to win alone. For example, two games with different users
When trying to use the dedicated terminal PF, it is necessary to purchase a dedicated terminal (game PF) in order to use both.
entry cost is required. As will be described later in Chapter 3, the game terminal selected by the user
In many cases, the final PF is only one model, and the PF that survives tends to become the sole winner. tsu
For PF operators who promote side platforms, the existence of this multi-homing
Ascertaining the current situation and managing it will bring the PF closer to winning alone.

3. Complementary Players and Ecosystem

Complementary players are those who realize value together with PF or increase the value of PF
A company that provides products or services. Products and services offered by complementary players
are described as complementary products. In the PF of dedicated game terminals and general-purpose terminal game services, software
Game software products and cloud-based game services will become complementary players with software development companies.
is a complementary product.

Without the existence of complementary products (complementary players), PF itself loses its value.
On the other hand, supplementary players participate in the business of PF companies to develop and develop their own products.
We are trying to expand our business. In addition, PF companies themselves are also making complementary products to strengthen PF.
It is also possible to plan. Nintendo develops game software because it developed its own dedicated terminal PF.
The purpose is to strengthen it with a complementary product called original software.

In discussing the development potential of PF and complementary players, it is necessary to clearly define the concept of the ecosystem.

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be. An ecosystem is a partnership in which multiple companies form partnerships for product development and business activities.
While making use of each other's technology and capital, developers, distributors, dealers, advertising media, and even
Involves consumers and society, and means a mechanism for broad coexistence and co-prosperity beyond industry boundaries and national borders.
be. Originally, it meant an “ecosystem,” which consists of organisms and their environmental components as a single system.
It is a scientific term to taste. (Chiezo 2014)

In order to grow PF, we need to attract complementary players through the formation and development of an ecosystem.
element. The development of the ecosystem means (1) expansion of the market and market share of the ecosystem, and (2) ecological
It can be thought of as three factors: expansion of system sales and profits, and (3) differentiation of the entire ecosystem.
(Negoro, 2006)

Regarding the development of the ecosystem, we will divide it into cases where there are no complementary products and cases where there are complementary products.
can think. Also, from the user's point of view, the user, supplementary player, and PF Ben
There are different answers depending on the three perspectives.

Figure 2-2 Ecosystem development

What will happen to the system (product) development? Is it	Product competition with complementary products (product development)	Product competition with complementary products (ecosystem development)
Answer from the user's point of view	Product features improve Product quality is better than other products	Ecosystem will improve and become more attractive than other ecosystems Cost performance will increase Cost performance of ecosystem will increase
Complementary Product Manufacturer Answer from Perspective	The company's share in the market)	The company's complementary products will increase Increase in sales and profits of company's <complementary products>
Platform maker Answer from car's point of view	(Product maker) Increase in company's share will increase sales and profits	The company's platform products will increase The company's platform products will increase The company's sales and profits will increase Differentiation of the entire ecosystem

(Source) Negoro (2006)

The development of the ecosystem will increase sales for both supplementary players and PF companies.
It is generally considered that, but there are exceptions.

The first is when the complement is cross-platform. In this case, the PF company
Because it becomes difficult to differentiate the company, it is difficult for the company to grow even if the ecosystem develops. for example
It is the relationship between the personal computer terminal and the Windows OS. What brand of computer does Windows run?
Even if it is, it is used, so it is difficult for PC terminal manufacturers to differentiate themselves, and consolidation
I'm listening.

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The second is when there is no direct revenue from the PF product. For example, Osaifu-Keitai

Although it is a PF vendor, PF usage fees from users and supplementary players (in this case, Osaifuke

- Thai usage fee). In this case, if the spread of terminals advances due to the expansion of users, ecosystem

Although the expansion of the mobile phone system coincides with the expansion of the company's own sales, the company's business as an Osaifu-Keitai

Do not expand.

The third is when the cost of subsidies exceeds income for the development of the ecosystem.

is. For example, although the hardware of mobile terminals is very expensive, it is

This is because it is a structure that secures profits. Telecommunications companies offer sales incentives for mobile handsets.

However, this does not necessarily lead to the expansion of the company's profits.

It doesn't work. (Negoro and Kuroda, 2007)

Chart 2-3 Contradiction between ecosystem development and company development

	ecosystem development	of the PF operator	In case of contradiction
ÿ ÿ	Scale expansion Scale expansion Sales expansion Sales expansion ÿ inconsistent	Cross-platform problem Cross-platform problem Sales from PF sales (This is a problem.) Sales from PF sales (Some PF companies)	Platform provider (Complementer is a loss-making product, PF business may grow. Even if it is that there is none.
ÿ ÿ	Sales expansion Sales expansion ÿ inconsistent	Sales from PF sales (This is a problem.) Sales from PF sales (Some PF companies) interest) When the PF operator's sales) Complementary profits company's	Platform provider's the interests of the complementing company
ÿ ÿ	Scale expansion Profit expansion Sales Scale expansion Sales expansion Profit ÿ contradict	Funding (costs increase) (Costs for complementary products (Costs for customers) PF companies and customers) PF companies' incentives of the complementing	

(Source) Negoro and Kuroda (2006)

The game industry covered in this research has many cross-platform cases. For example, game

Software developers can invest in PFs that maximize the sales of their software products.

We develop and sell software that is assumed to be optimal for both Nintendo PF and Sony PF.

A game software development company whose ecosystem development is a complementary player in Nintendo PF

will not maximize their business, and vice versa.

4. Layer structure

Conventional industrial theory has traditionally been viewed in terms of value chains, but there is a new emergence.

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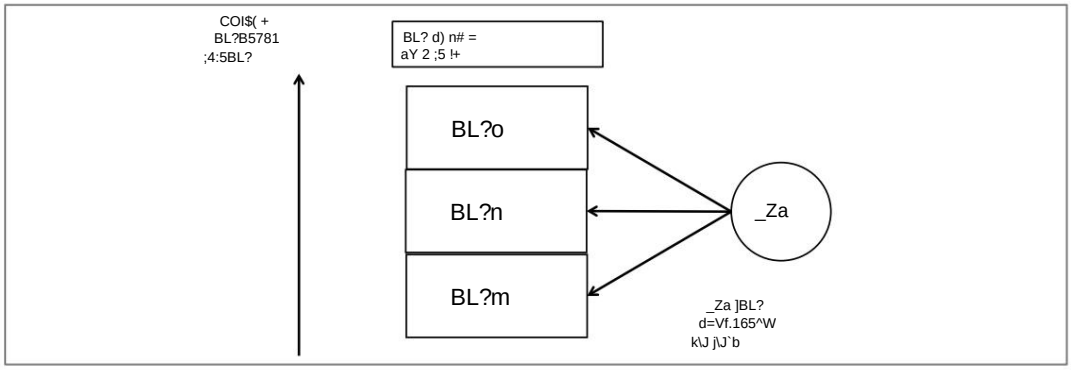
It is an industry with a layered structure. This research refers to Negoro and Fujimaki [2013],

Consumers will be able to freely and directly choose the combination of goods/services.”

is defined as the industrial layer structuring.

Chart 2-4 Layered model



(Source) Negoro and Fujimaki [2013]

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<0> "#+ [$aYBoeM-F*+Sh"#+BL? -/=A89<0>MF BL? "g'

In the layered structure, users can directly select products, services, and information on each layer.

Can be used in combination. In this structure, products, services, and information on each layer

The products and services that mediate the selection of

be. The game business, in which users directly select products for both hardware and software, is rare.

It is most suitable for expression using the ear structure.

In research on “changes in game models” in the game industry (Kameda 2010),

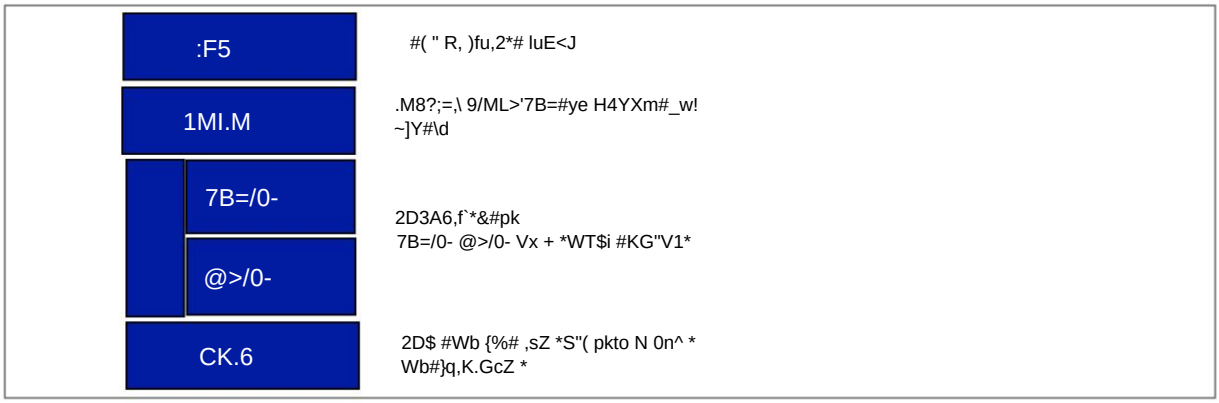
Place, hardware, software, online charge as layers that make up the business

Expressed in a year structure, arranged in chronological order about innovative products born in the game industry,

We are analyzing and considering the

components of and the relationship with competing products. Chart (2-5)

Chart 2-5 Analysis model in previous research



(Kameda 2010)

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This study develops this analysis into two groups, the client group and the network group.
After separating, hardware, OS, software development environment, software, user ID, content distribution
Express with a layered structure of PF/distribution type content and proceed with the analysis.

•Client group This is a sell-out type structure, and basically after selling to the user,
Change is difficult (Chart 2-6)

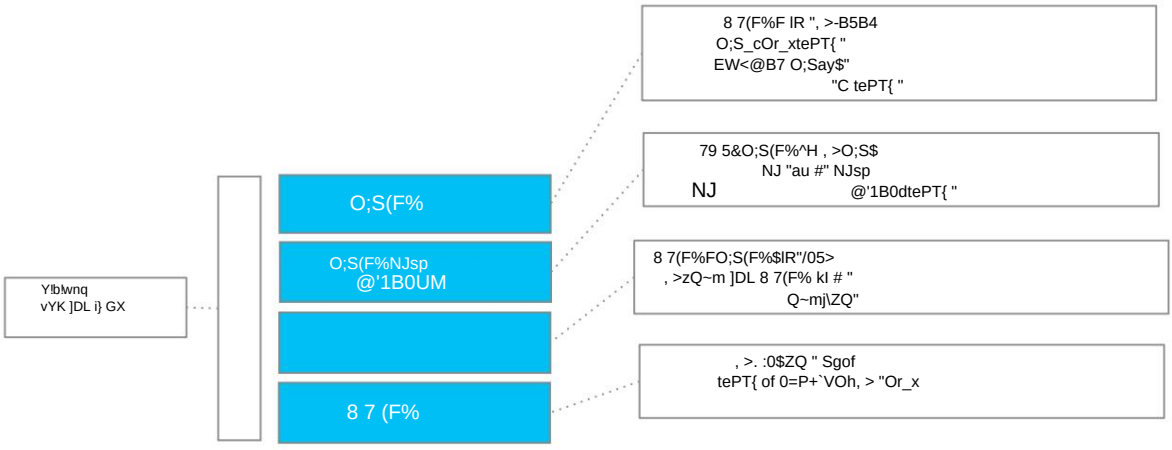
It is the final product for consuming "hardware" gaming services. Discrimination among Competitors
Product performance, operability, experience value in experience games, etc.

"OS" Abbreviation for operating system. for running software on hardware
PF system. Game terminals are basically integrated with hardware, but general-purpose
Terminals often have layer separation.

"Software development environment" A third-party (complementary player) software development company
A development environment provided for developing software. The differentiating factor among PF competitors is software development.
Ease of release and licensing fees are differentiating factors

Game content running on "software" hardware. software price and user
Perceived value becomes a differentiating factor. Branded software popular with users enters PF
It is a big differentiator for PFs of game-dedicated terminals and general-purpose terminal game services

Figure 2-6 Setting the layer structure in this research Client group



•Network Group A level that provides services to users through connections with networks.
ear. By linking with user database management, sales to users through the network
Update post-sale client groups or offer services on the web
(Chart 2-7)

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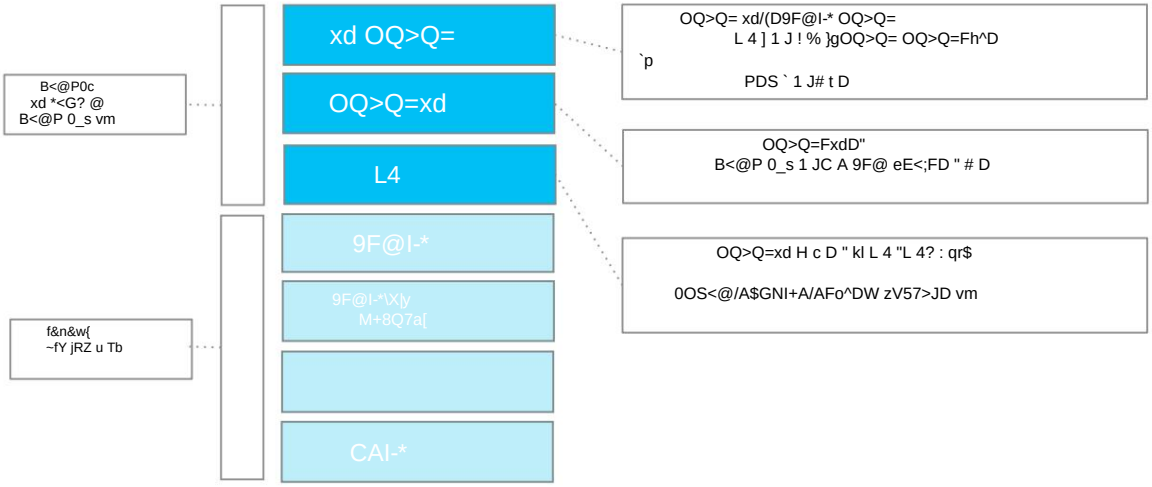
"User ID" Authentication ID for connecting to the content distribution PF. User
By collecting data and utilizing credit cards and prepaid cards, it will become a billing system.
possible. Effectively utilize this layer as a revenue model that earns charging fees in many PFs
It is created by using
"Content distribution PF" PF for distributing content. Ease of use and integration with other layers
The high level of collaboration is a differentiating factor. Basically, it is linked with the user ID, and the network
It is also used to distribute game software and hardware correction patches.
"Distribution type content" Game software and content distributed as digital data. You
Through the ID and content distribution PF, not only games but also videos, music, additional items, etc.
provided in the form of content. Cloud-based services are also included, such as browser games
Games running on the server are in this layer.

Figure 2-7 Layer structure setting in this research Network group



5. Industrial model and business model

With reference to the relationship between industrial models and business models (Negoro and Minowa 2001),
The “industry model” that expresses the common structure of the business models of major players and the
We use the concept of “business model”, which is a model for the “business” structure of main research
In , existing players and new players propose new layer structures and realize them.
“Industrial model change”, changing the entry layer based on the existing layer structure
and change the open policy for each layer to increase the attractiveness of products and services.
and to improve profitability is defined as a “change in business model.”

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Chapter 3 Game Business Characteristics and Market Situation

In this chapter, we describe the characteristics of the business model as a PF for the game terminal business. In addition, we will discuss the market situation, the business situation of the game business among players, and user trends. organize everything.

Section 1 Features of Game Terminal Platforms

1. Business model and royalties

The center of the game business is Nintendo and Sony Computer Entertainment (SCE) It is a game dedicated terminal manufacturer that provides hardware such as, and becomes the creator of PF. in addition, Complementary players, game software developers that provide software to PFs such as Capcom and Konami , the game business has taken on the characteristics of a two-sided market. game edge Hardware is the most important layer in end PF. The network externality centered on hardware works strongly.

As hardware developed by dedicated game terminal manufacturers spreads beyond a certain scale, Expecting great sales opportunities, many game software developers enter the market. This allows the game The user will have more choices of game software. As a result, new hardware purchases Game users who want to play games have an incentive to choose more popular hardware, so sales This creates a virtuous cycle in which game terminals that are already sold will sell even more.

If such a virtuous cycle is formed, it will continue until the market saturates and declines. On the other hand, game device makers with low market share follow the opposite pattern, gaining more and more market share. It will drop. Therefore, game device manufacturers have a low market share. It is difficult to establish a business that continues to provide services to specific customers with Market share competition for handsets is often dominated by one or two models (WTA).

In addition, game terminal manufacturers receive licenses from game software developers based on license agreements. Create a profit model that collects fees according to the number of software sales in the form of royalties raising. Gaming terminal makers, when launching new hardware, In many cases, the price is set after considering the income from the rental income. For example, a royalty of 2000 If we estimate that users buy five or more software titles on average, the hardware Even if it is sold below the cost price of ¥10,000, it will be able to surpass the profit line. be. Each game software royalty is said to be about 10% to 20%. (Chart 3-1)

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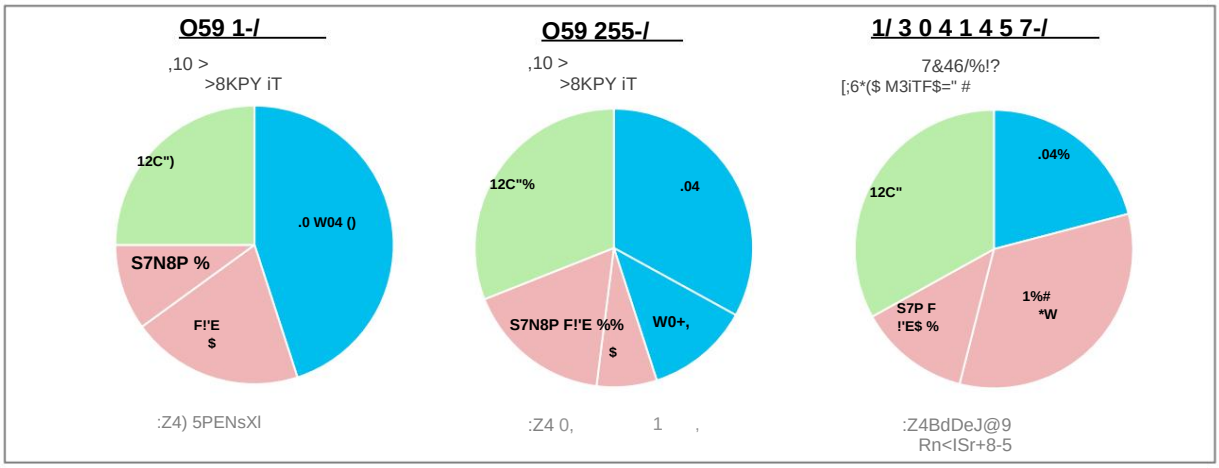
Chart 3-1 Royalties in PF of dedicated game terminals



If the initial investment exceeds the profitability line, after that, the dedicated terminal manufacturer will only use its own software

Instead, the more you sell software developed by other companies that can earn royalty income, the more your profit will continue to increase.

It has a profit structure that will continue to grow.

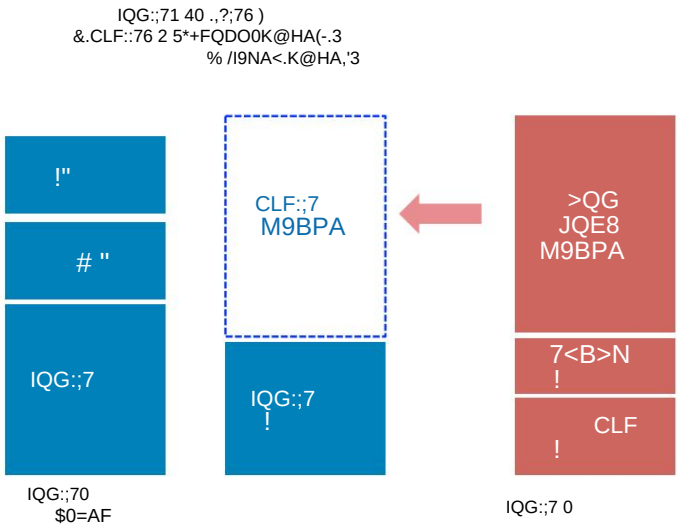
Because of this revenue structure, game device manufacturers

The highest priority is to expand the market. Therefore, we keep the hardware price as low as possible.

set the price, and sell with strategic pricing that makes it just below the cost price line

I have a lot to do. (Chart 3-2)

Chart 3-2 Business model for game terminals



After that, we will continue to improve the hardware and production line to reduce the range of the deficit.

is adopting a strategy of Therefore, it is not possible to exceed the profitability line of the initial hardware investment

As long as game device manufacturers continue to run into the red, the deficit will accelerate.

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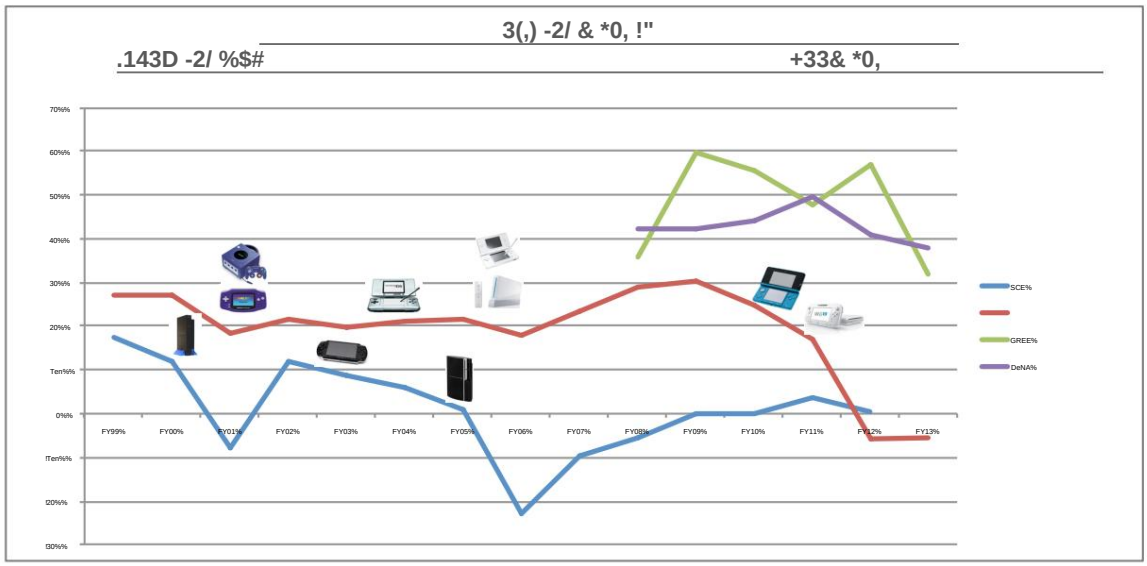
It will pile up. As a specific example, the first year of sales of SCE's PlayStation series

It can be surmised that this is the reason for the large deficit every time.

Chart 3-3 Relationship between hardware sales and profitability



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(Source) Created by the author based on company IR information (1)

2. Switching costs, lock-in and multihoming

Only software developed for the dedicated game terminal can run on the dedicated game terminal.

It has a good specification. Therefore, the PF side has to take a share of the hardware with strategic pricing.

In addition, there is a demand for how to “enclose” excellent software that is attractive to game users.

be ordered. For example, Nintendo's "Mario" series and "Pocket Monsters" series

It is an excellent software that is supported by many game users, but since it is developed by Nintendo itself, SCE

will not be released for PlayStation PF. Game users enjoy Mario software

When you want to enjoy it, you are required to buy a Nintendo game console. This is software developed by another company.

The same is true for the Fut. Due to these specifications and designs on the PF side, the user is surrounded by the PF product.

This is called “lock-in”, and in order to divert the PF from this lock-in state

The effort and expense required for switching is called “switching cost”. Gaming terminals are user-owned.

It is a market where a check-in occurs, and a market where switching costs are incurred for movement between PFs.

It is a place.

(1) SCE shows sales and operating income of the game business only; Nintendo, GREE, and DeNA show company-wide sales and operating income

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Because of this kind of market, for game device manufacturers, competition among same-generation PFs
In the competition, the excellent content is exclusively enclosed by the company without being sold to other companies' PFs
Therefore, it is strategically important how to create incentives for software companies.
Become. Since Nintendo has the know-how to develop software in-house, it is
You can have the content and deploy it on your own dedicated game terminal. for that reason,
It has the strength of being able to drive the company's PF with the power of its own software.

Game-dedicated terminals that lock in users within a generation and increase switching costs
However, users are released from lock-in when generations are crossed. game terminal
hardware evolves every few years, so the transition to the next generation is a big technical challenge.
Accompanied by hardware changes. This makes maintaining compatibility a major cost hurdle.
There are many PFs that make choices that do not maintain software compatibility. Additionally, the game
Since software is a consumer product, there is a tendency to prefer the latest content over past content.
be. Considering the fact that 60% of game software sales are generated within one month of new product sales.
, it can be said that users are interested in the latest games, not old games, and past generation games
Maintaining the compatibility of

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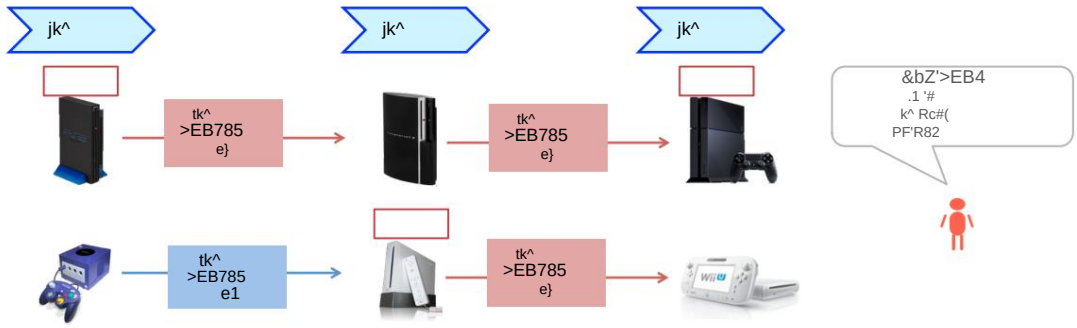
It can also be considered that it does not follow the (Chart 3-4)
0&W F>EB785(x # 2 , y ';JAJ@/1-bZ';JAJ@ *P2 h 1
Z v' i 0PKT'X& w'iO s0P2~ 4 +2$ G <'[e(WF#/%7b7'W F& 2$h 2

Figure 3-4 Compatibility between generations and release of lock-in



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From the standpoint of a software development company, PF for game terminals will be launched
At stage, there is uncertainty as to which PF will be successful if there are several candidates on the market.
is high. In response to the enclosure measures of dedicated terminal manufacturers, software development companies also have their own business.
There are strategies to expand the ness. Due to the uncertainty of the success of the dedicated game terminal PF
In order to reduce the risk, the software development company will release the software for multiple PFs.
This is a case of taking measures of "multi-homing".

Multi-homing increases development costs because the development environment for game-dedicated terminals differs for each PF.

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In addition, it is possible to divert materials to some extent in PF that has commonality between hardware
Therefore, it is possible to devise ways to reduce production costs and production time rather than developing software separately.
be. However, hardware with special functions such as the Nintendo DS and Wii will be multi-deployed.
It is difficult to open and must be reconfigured from the fundamental game design (reuse of materials
can not) also occur. In addition, in PF where there is a large difference in performance between hardware,
When performing multi-homing deployment, there is no choice but to make it according to the lower performance.
So, on the high-end model side, there was a decision that we had to develop software that could not make the most of the performance.
There are also benefits.

Software development companies want to sell software in a larger market, so multi-home
By expanding the marketing, it becomes possible to implement a sales strategy targeting a larger number of users.
In the early stages of new hardware launches, it is difficult to determine which PF will be popular and successful.
Therefore, multi-homing deployment is a risk mitigation measure for software development companies.
It is a very effective means.

In addition, as a PF, it is easy to multi-hom to complementary players (software development companies)
By preparing a software development environment and increasing the “openness” of the PF, it is possible to
You can also take a strategy to make it easier to line up. On the other hand, there is attractive software for multiple PFs.
Users will be distributed by being provided, making it difficult for the company's hardware to spread.
It also creates a risk of In this way, the dedicated game terminal PF becomes a supplementary player.
On the other hand, a design that considers the balance between "enclosure" and "openness" is important.

Section 2 Market Overview

This section summarizes the global and Japanese market conditions for game terminals.

1. Global and domestic market trends

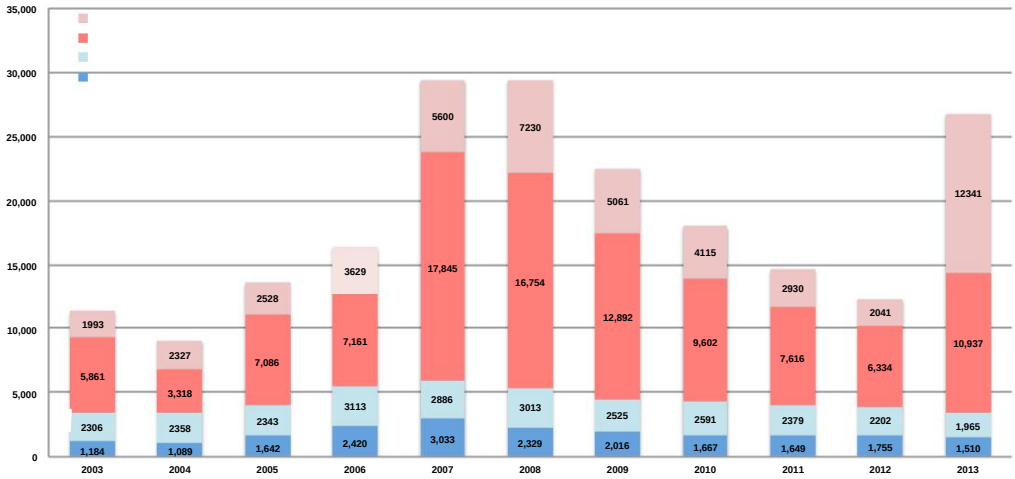
Since Nintendo released the Family Computer in 1983, the game business has continued to grow.
Japanese companies have long established a dominant position in the global market with PlayStation
I've raised However, with the spread of smartphones in recent years, the market is now in a dramatic state.
significant changes are occurring.

As shown in Figure 3-5, the game market peaked in 2007 and 2008, gradually declined, and then rebounded in 2013.
Sales are growing exponentially. As a factor, in 2007 and 2008 Nintendo's Wii and Nintendo
It was the year when 7th-generation PFs such as Nintendo DS and SCE's PlayStation 3 were launched.

Machine Translated by Google

In 2013, we launched 8th generation new terminals such as SCE's PlayStation 4 and Nintendo's Wii U.
This is because it is the year when the release of In this way, game-dedicated terminals will continue to develop with new PFs.
The market structure is such that sales reach a peak at the time of growth and then decline gradually. 2013
Although the market has regained its high level once again, it is faster than the level of 2007 and 2008.
that there is a tendency to shrink. value is low, indicating

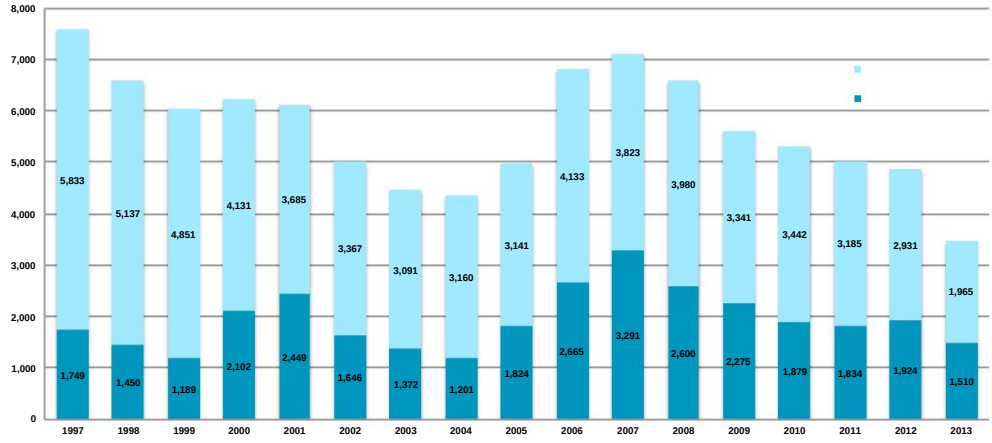
Chart 3-5 Changes in the global market for game terminals



%! 2013 "

(Source) Media Create "Game Industry White Paper 2013" Created based on Media Create

Chart 3-6 Changes in the domestic market for dedicated game terminals



$ Decade I

(Source) Created based on Media Create's "Game Industry White Paper 2013"

While sales in the global market grew in 2013, the domestic market in Japan peaked in 2007.
There is a consistent downward trend. (Chart 3-6)
PF prioritizes sales in overseas markets. Taking PlayStation 4 as an example, North America and Europe
was released in February 2014 in Japan, while the release date was November 2013.

Machine Translated by Google

can. Traditionally, Japanese companies have been the main players in gaming device manufacturers.

The strategy was to launch the Japanese market first and then expand to overseas markets. but,

In the 8th generation, the strategy was changed, giving priority to the North American and European markets, leaving the Japanese market on the back burner.

Prioritize the Christmas sales season in North America and Europe, which have large markets for PlayStation 4

Although it can be expected that there was also an intention to

It is in. The background of this postponement of the Japanese market is the difference in user trends between the Japanese market and overseas markets,

Changes in market conditions occurring in the Japanese market can be considered.

2. Differences in user trends between Japan and overseas

There are two markets for game terminals, the stationary type and the portable type.

There is a clear difference in preference between these two choices among outside users.

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Chart 3-7 Differences in preferences between overseas and Japanese users

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WJV	>8U^`H?		>8U^`H?	WJV
100%	2,822,245	7N	409,495	100%
10.4%	292,974	PlayStation 4	-	-
31.5%	890,148	PlayStation3	99,280	24.2%
-	-	PlayStation2	232	0.1%
4.8%	134,799	Wii U	39,715	9.7%
4.1%	114,782	Wii	7,414	1.8%
9.1%	257,668	Xbox One	-	-
24.8%	700,503	Xbox 360	3,045	0.7%
1.8%	51,472	PlayStation Vita	40,074	9.8%
1.1%	32,164	PSP	24,947	6.1%
11.3%	319,003	Nintendo 3DS	192,783	47.1%
1.0%	28,732	Nintendo DS	2,006	0.5%

TPs % ,]Q

72

(Source) Created by the author based on the CESA Game White Paper 2014

Chart 3-7 shows the sales composition of stationary and portable models in the overseas and Japanese markets.

This is a summary of the composition ratio. In the overseas market, stationary type accounts for the majority at 84.7%.

In this market, stationary type accounts for 36.6%, and portable type accounts for 63.4%.

stomach. While overseas users tend to prefer stationary models, Japanese users tend to prefer portable models.

It can be seen that there is a tendency to prefer

There are several hypotheses regarding this fact. For example, in Japan, elementary and junior high school students

Main users are Pokemon (Nintendo) and Monster Hunter (Capcom)

There is a high demand for playing in places such as real communication, and people who use trains to commute to work or school

It is said that in Japan, where there are many social gatherings, it is customary to use portable game terminals while traveling.

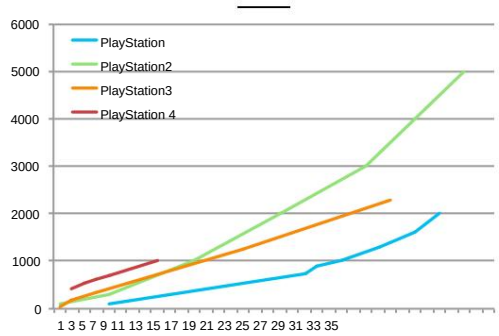
84.7% 36.6%

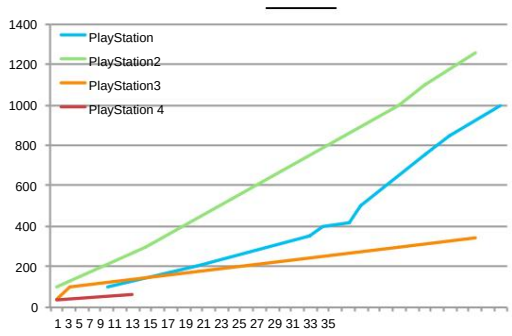
Machine Translated by Google

It is a hypothesis. The difference in user tastes in each of these markets is due to the PlayStation sales.

It is also reflected in sales performance.

Figure 3-8 Rise from the launch of the PlayStation series





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(Source) Created by the author based on published data (2)

Figure 3-8 shows how the PlayStation series market has risen since its release date.

It tracks the shipment results on a monthly basis in the world market and the Japanese market.

For the original PlayStation and PlayStation 2, the global market and the Japanese market

There is no difference in growth, but PlayStation 3 and PlayStation 4

It can be seen that the pace of the slopes differs greatly. PlayStation 3 in overseas markets

While it has surpassed the actual performance of the original PlayStation in Japan, PF has not been launched yet.

The announcement of the new generation is approaching.

PlayStation 4 sold 10 million units worldwide within 9 months of its release.

Even when compared with the past PlayStation series, it is the fastest start-up pace ever.

This indicates the high demand for stationary machines overseas. While the overseas market is doing well, the Japanese market

The market is in a slump, and the Japanese market is standing at the lowest pace ever, in contrast to the fastest overseas market.

It is rising. SCE has decided to release the PlayStation 4 overseas.

Prioritized and sold in the Japanese market several months later, but we have grasped the trends of Japanese users

On top of that, it is speculated that there was an outlook for the harshness of the stationary terminal in the Japanese market.

3. Expansion of smartphone users and the predicament of portable terminals

Compared to stationary terminals, which are still expected to have a sufficient market overseas, portable terminals

(2) Collected data by the author with reference to SCE press releases and articles by Enterbrain. unpublished part was supplemented by the author.

Machine Translated by Google

The domestic market is facing severe conditions. As shown in Figure 3-7, more than 60% of the sales amount is for portable devices.

Demand for portable terminals in overseas markets is small, at 15%, compared to the Japanese market, which is the world's largest market. in the preceding paragraph

As mentioned above, the hypothesis that Japanese users prefer portable terminals due to environmental factors is hypothetical.

If it is supported by

Growth should be expected, but this is the market for general-purpose mobile phones centered on smartphones.

It can be inferred from Figure 3-9 that a large number of users are being taken over by terminals.

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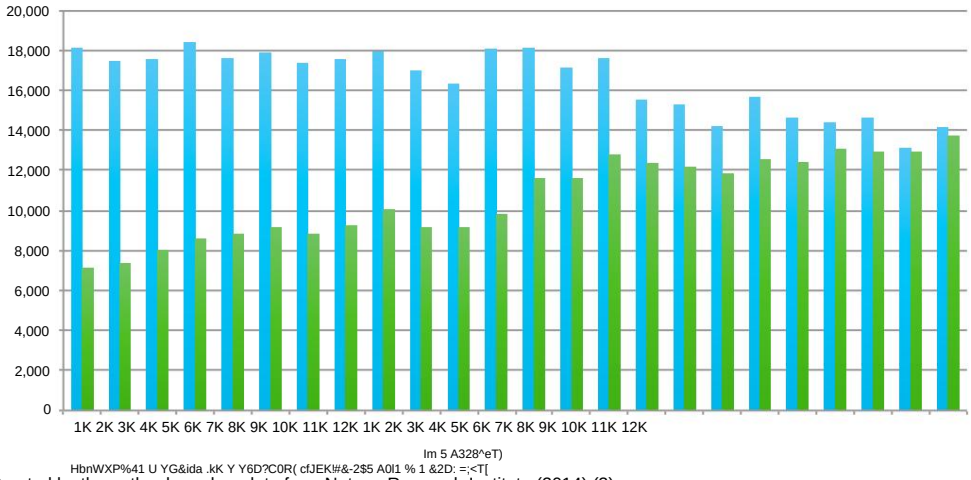
Chart 3-9 Trends in active game devices and smartphone games



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(Source) Created by the author based on data from Netage Research Institute (2014) (3)

Chart 3-9 shows the number of games on dedicated game terminals and smartphone games over the past month. This is the result of a survey on whether they played games on these terminals. Estimated about 1800 as of 2012 10,000 users were actively using gaming terminals (blue), but as of the end of 2013, there were no smartphones. There are approximately 14 million active users of smart phone users (green) and dedicated gaming terminals. You can see that it is level.

According to a questionnaire survey (4) conducted by Fujitsu Research Institute , 55% of smartphone users 42% of the respondents answered that they play smartphone games every day.

Since the start of the game, many respondents said that the frequency of their use of dedicated gaming devices has decreased.

It can be inferred that the spread of phones has a great impact on portable game terminals.

When we look at the Japanese market, we can see that smart devices are more popular than portable terminals, which are dedicated game terminals.

Enjoying games on a phone general-purpose terminal has great merits for the user. First, the current

(3) During the period from 2012 to 2013, 20,000 to 40,000 samples were selected each month from a population of about 400,000 people, and asked, Internet survey on “Did you play the game?

(4) Questionnaire survey for the September 2014 publication of "Layer Structuring Theory and Trends (coming soon)". 3500 men and women aged 20 and over to investigate. Occupation and address were not assigned.

Machine Translated by Google

In Japan, mobile phones have become a daily necessity, and the Cabinet Office announced in April 2014 that mobile phones

According to a trend survey, as of 2014, 93.2% of households use mobile phones (feature phones).

) are popular, and the household penetration rate of smartphones was 54.7%. smartphone

PF for content distribution is progressing mainly in iOS (Apple) and Android (Google).

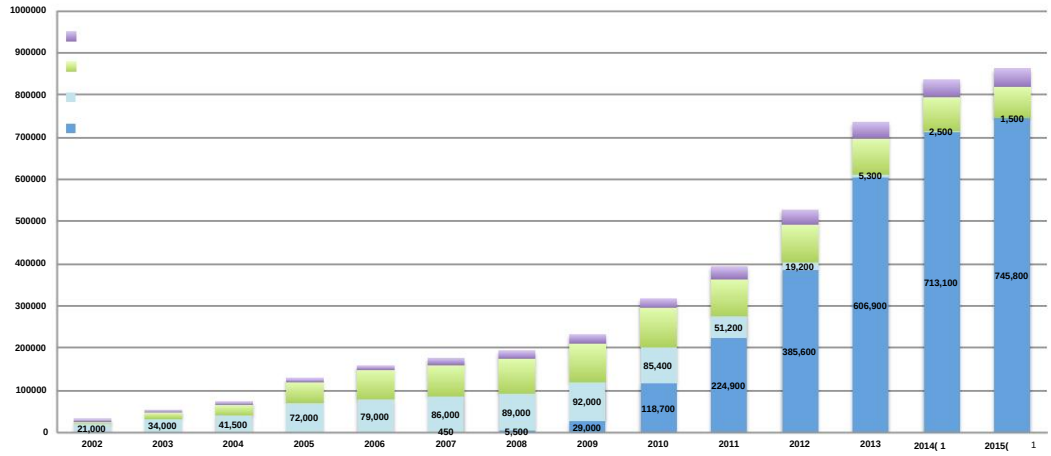
Za already has an environment where you can play games on the smartphone you already own.

Due to these market conditions, portable game terminals, which had been strong in the Japanese market, fell into a difficult situation.

On the other hand, general-purpose terminal game platforms are growing significantly in the Japanese market. (figure

Table 3-10)

Chart 3-10 Expanding online content EC market size (domestic)



(Source) Created by the author based on data from Famitsu Game White Paper 2014

4. Status of hardware development costs

Dedicated game terminals are often developed with the same standards as computers.

Generational evolution is closely related to the history of computer evolution. In addition, game terminals will be released

After that, it is also a premise that users will continue to use it for several years, so the development of dedicated game terminals

Technological development and investment ahead of general-purpose terminals such as personal computers are required.

As terminals become more sophisticated, the level of investment by hardware manufacturers tends to increase year by year.

Machine Translated by Google

#$ %' ! (") Chart 3-11 Changes in Nintendo's R&D expenses

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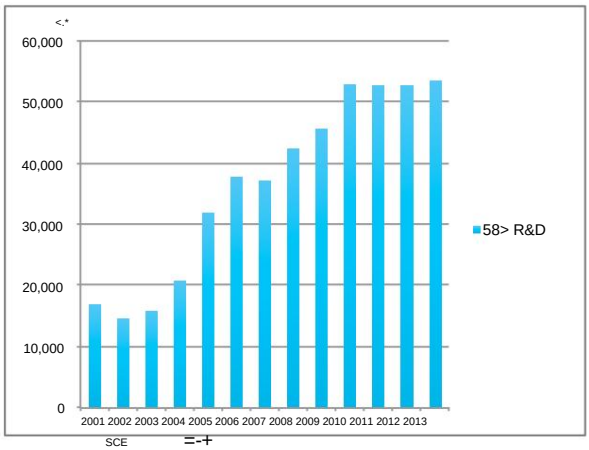

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(Source) Created by the author based on Nintendo IR information

65

Chart 3-11 shows the changes in Nintendo's R&D expenditures.

Development costs have risen sharply to the present day. As of 2001, stationary and portable

We develop and sell both handsets, and considering that our business structure will not change at this time,

It can be seen that the development cost per terminal is soaring.

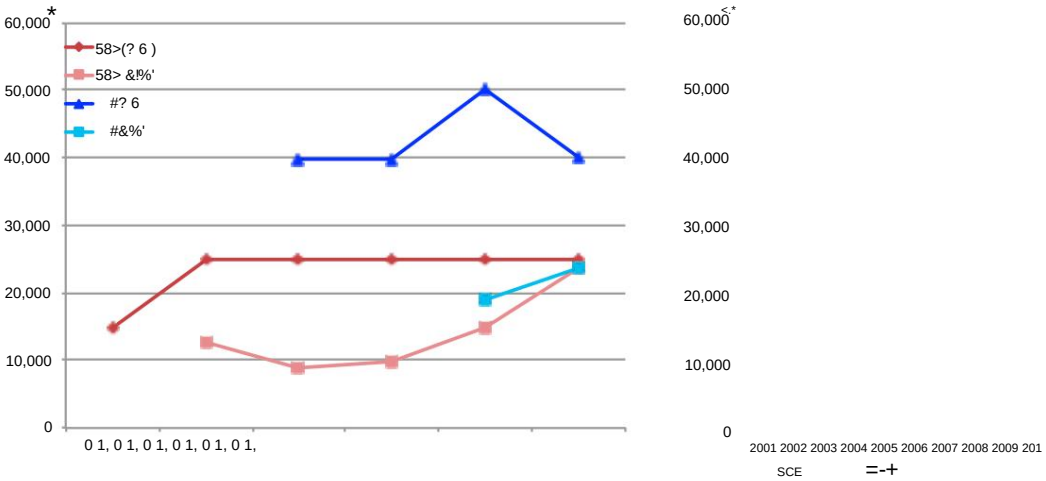
SCE has not announced research and development costs on a stand-alone basis, but as of 2003, the PlayStation 3

announced that it is investing 300 billion yen in research and development for semiconductor development costs.

From this, it can be seen that development costs are also rising.

Chart 3-12 Changes in the retail value of dedicated game terminals %' ! (")

&



(Source) Created by the author based on the sales data of each company at the time

While the development costs of hardware manufacturers have skyrocketed, the price of the terminal itself has not changed.

Chart 3-12 is a graph showing changes in retail prices of dedicated game terminals.

Machine Translated by Google

Although there is an upward trend, the same level is consistently maintained for stationary terminals.

ing. The 7th generation PlayStation 3 was sold at a level close to 50,000 yen at the time of its release.

However, due to the slow start-up, the company reduced the price by about 10,000 yen after one year. Nintendo is

Since the 4th generation and onwards, it has consistently maintained a price of 25,000 yen, which is why it is considered a stationary game.

The level at which users will accept mobile-dedicated terminals is between ¥25,000 and ¥40,000.

It can be seen that there is a judgment that the above price increase is severe.

As hardware R&D costs soar for gaming device manufacturers, retail prices

It can be considered that the situation is falling into a dilemma that it cannot be reflected.

5. Comparison of development costs with general-purpose terminal game services

Due to the improved performance of dedicated game terminals, not only hardware development costs but also game software costs have increased.

Prices are also on the rise. The PlayStation 2 is a large-scale title with sales of approximately ¥1 billion.

Although development costs were required, the PlayStation 3 and Xbox 360 were large-scale

1 to 2 billion yen for titles, 5 to 10 billion yen for major U.S. titles

There are also cases where development costs swell up to 100% (Okuya (2010), etc.).

With development costs soaring, the market as a whole is shrinking.

For companies, it can be said that the situation is such that returns are decreasing while risks are increasing.

3-13 Development costs for

games for dedicated devices and smartphones

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(Source) Created with reference to Atsuo Nakayama, "Why are only social games profitable?" PHP Institute, p113

Chart 3-13 shows software development costs for stationary game terminals and smartphone games

and its earnings forecast. The return on investment for dedicated game terminals is declining,

Machine Translated by Google

While becoming a high-risk, low-return business, games for smartphones
It is a low-risk, high-return market that can target a large market while keeping development costs down.
I understand.

Following GREE and DeNA, there are many new players such as GungHo Entertainment in recent years.
At the same time, game software developers for existing game-dedicated terminals are also actively
has entered the phone market. Dedicated game terminals PF have high hardware development costs.
While it is soaring, it is said that it is falling into a situation of double suffering that supplementary players also begin to withdraw.
I can say.

Section 3 Summary

Game-dedicated terminals require advanced computer technology such as graphics processing and arithmetic processing.
It is hardware that is used by Nintendo, Sony, and other large developers specializing in the development of game terminals.
Investable companies have been successful in building PF

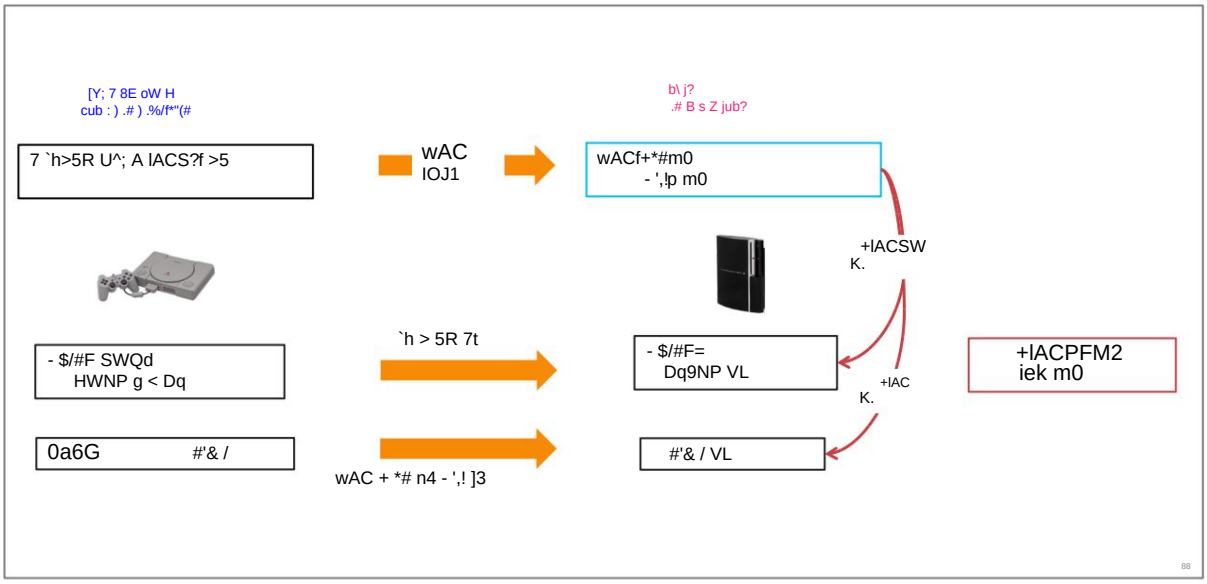
For the above reasons, the production of hardware becomes expensive, so the main game
The price becomes unaffordable for the young people who are the target layer. To resolve this,
In addition to mass-producing hardware, licensing software and collecting royalties
By making profits in a form that PF can be obtained, hardware is at the margin of profit line or in the red
Even so, by compensating with royalties, it is possible to deliver hardware to users at low cost.
We realized the model. The business model of this kind of license-type PF was
is a very successful but hardware 'locked-in' business structure.
Therefore, companies that want to release games to multiple PFs, and games that are interested in multiple hardware
Multiple hardware choices for straddling users
It has become a structure that makes it difficult to do "multi-homing" that requires investment.

On the other hand, in the process of technological evolution, the transition of hardware generations progresses, so compatibility is maintained.
As a result, it is standard practice to raise switching costs, but game-dedicated terminals
compatibility of past software tends not to be considered important. Dedicated game terminals have evolved
In the process, the game software itself has become more complex, and the user base is different between Japan and overseas.
However, users who want light games prefer general-purpose terminals such as smartphones, not dedicated terminals.
There is a tendency to drift to the final game.

Machine Translated by Google

Due to the evolution of computer technology, development costs for dedicated game terminals are soaring.
has not changed, it has not been passed on to retail prices. Furthermore, in order to eliminate this deficit width
General-purpose terminal game services such as smartphones
is falling into a difficult situation due to the rise of The business model for dedicated game devices is in a booming period
It will generate a large profit, but once it goes into trouble, the deficit will expand in a chain reaction.
We believe that the actualization of these risks that we have been dealing with in the past is leading to the expansion of the deficit.
I can guess.

Figure 3-14: Changes in game success models



Machine Translated by Google

This chapter describes how game-dedicated terminals have evolved as PFs from the early days to the present.
We will examine what activities and function additions contributed to the success of stationary terminals.
Run the analysis through the series.

Section 1 Definition of the Analysis Framework

1. Definition of Market Leader (Winner)

Define the winner in analyzing the winning pattern of the PF of each generation of gaming terminals
There is a need to. For example, Frank and Cook (1995) defined WTA (Winner Takes All) as a
“Winner market monopoly” is defined as a single company that dominates most of the market.
can be interpreted as WTA. However, in the same book, accurate data were used.
No case analysis exists.

Negoro and Ohtake (2010) describe the WTA as ``a situation in which one or two companies monopolize the market''.
Based on the definition, “One win is a share of 50% or more, and two wins is a combined share of the top two companies of 50% or more.”
based on above. HHI considers 0.25 or more to be (relatively) oligopolistic.”
be.

In addition, Gretz (2009) describes the criteria for the success of game-dedicated terminals as follows for terminals of the same generation:
It is defined as below.

- A company that has succeeded as a “market leader” business and secured a market share of 45% or more
  When the market is divided in two, both sides become leaders
- A company that has succeeded as a latecomer business, but has secured a market share of 15% or more
- "Failure" Players other than the above

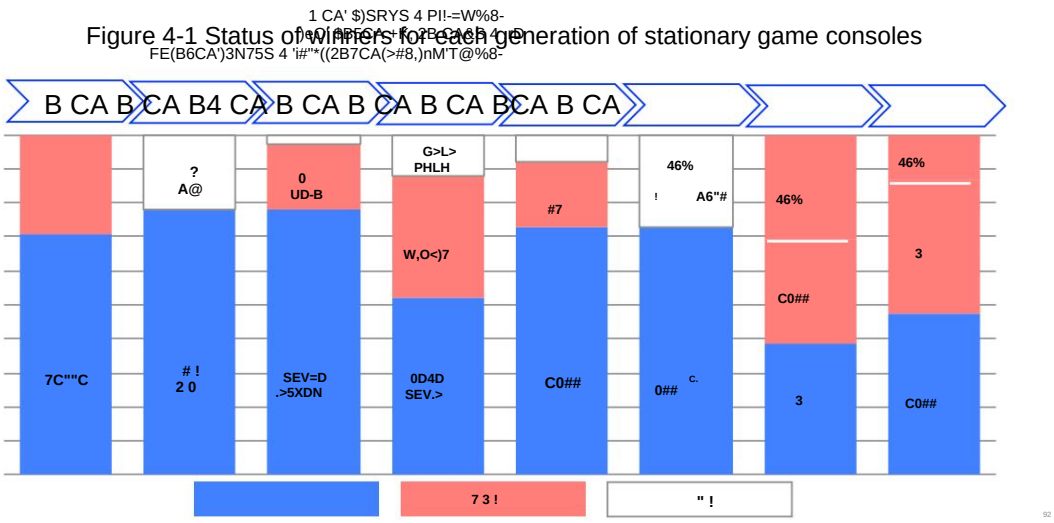
In this study, we refer to the above two preceding studies and define them as follows.
In the game terminal PF of the same generation

- "Winner" PF who secures more than 50% market share and wins alone
- The total share of the “Winner & 2nd Winner” is 50% or more, and one of them
  Each PF holding a minimum share of 15% or more
- "Loser" PF other than the above

Figure 4-1 shows the status of winner players in each generation.

Machine Translated by Google

Figure 4-1 Status of winners for each generation of stationary game consoles



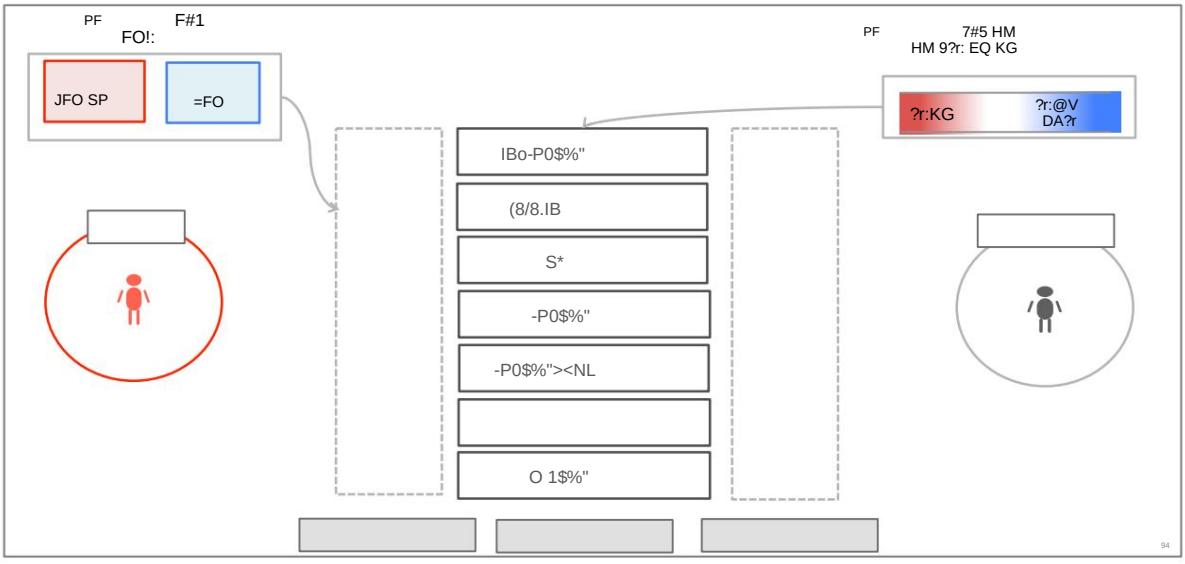
(Source) Created by the author based on the total sales volume of each PF

2. Defining the layer structure framework for game devices

In analyzing the activities and functions of PF Winners in each generation, PFs are classified as shown in Chart 4-2 below. We set up a framework expressed in a layered structure. In which layer does PF enhance functionality? Furthermore, on the user side and supplementary player side, which layer should be invested in, and which It shows whether you are generating revenue from the layer.

In PF, the failure layer is "red" and the success layer is "blue". It expresses the degree of concentration. In terms of the profit model, PF is in the red or has low profits. Layers are expressed as “red” and high-profit layers for PF as “blue”.

Figure 4-2 Framework for analyzing winners of game terminal PF



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Section 2 Factor analysis of winners in the early days (1st and 2nd generation)

1. 1st Generation Odyssey

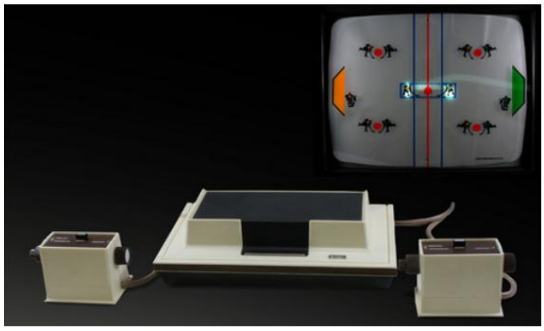
In 1972, Magnavox, an American consumer electronics manufacturer, developed the world's first terminal for home video games.

Odyssey was released as the end. Two sets of separate controllers are included, and software can be exchanged.

In addition to being able to enjoy multiple games by exchanging, it is equipped with an expansion terminal and the system

It has the same specifications as the current game terminal, such as being expandable. (photo1)

Photo 1 Odyssey



As a video equipment manufacturer, Magnavox is a manufacturer of electronic games that can be used for entertainment and education.

Based on the concept of "a room simulator", the customer base that purchases the company's TVs, namely

We promoted sales targeting wealthy men with children.

100,000 units of the Odyssey were released in countries around the world, including the United States, France, and West Germany,
By the end of sales in 1974, approximately 200,000 units had been sold in the United States (5) . In the first generation, Atari

The company's Home-Pong terminal has also appeared, but sales have remained at around 100,000 units.

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Chart 4-3 Layer structure of the 1st generation Winner Odyssey

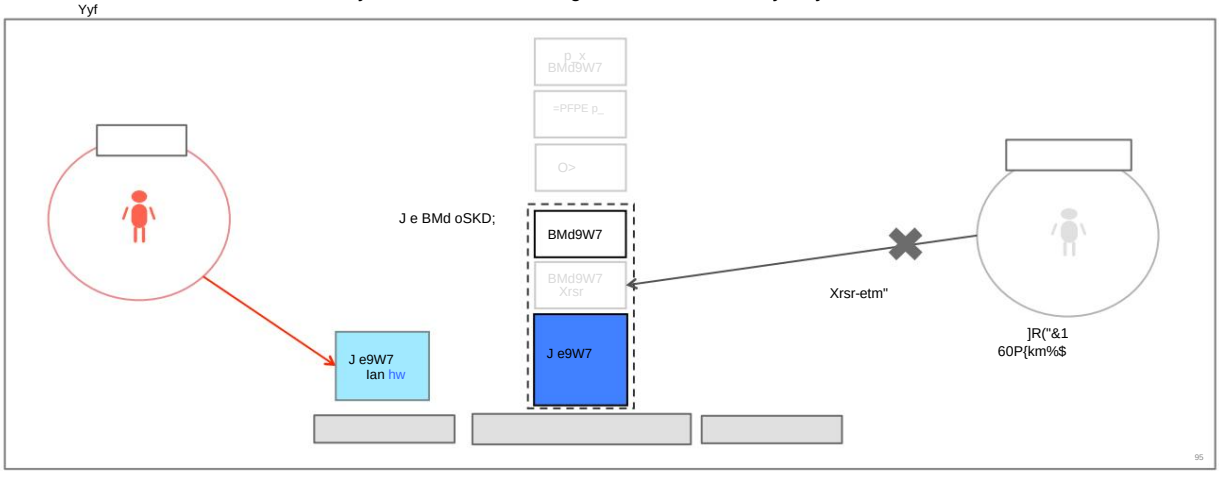

Figure 4-3 shows the layered structure of the first-generation Odyssey business model.

(5) Isao Yamazaki "Home Game Machine Complete Guide" (2014) Shufunotomosha p4

Machine Translated by Google

Although it was designed to switch between multiple pieces of software that the user could play, the hardware and set-up
The software itself was provided by Magnavox. Yield as PF
The profit structure is also completely dependent on hardware sales, and the hardware sales model
, and it can be said that it is in a state where it is not converted to PF.

Odyssey has a high market share and meets the Winner criteria, but as a business
It has not reached the scale of being successful. Multiple materials also show “slump” and “sales performance
is less than expected,” and the business performance is not good.
I can see that. It was also pointed out that the game itself was incomplete as a game machine,
"The game was semi-automatic and not very interesting."
1976). The game terminal is not recognized by the market itself,
It can be said that the dedicated game terminal itself was in its infancy.

2. 2nd generation Atari2600 (VCS)

The Atari 2600 is a dedicated game terminal released in 1977 by the US company Atari. Video at the time
It is also called the Atari VCS because it was sold under the name Computer System.

As a point that has evolved from Odyssey, it is a cartridge replaceable type.
The point is that you can enjoy multiple software by exchanging the ROM, which is called a cache. So
By exchanging the futo, the range of ways to play is greatly expanded, and it was very popular in arcade games at the time.
By transplanting "Space Invaders", it has explosively increased recognition and spread
It was decided. As of 1981, it had sold about 6 million units and accounted for 80% of the video game market.
was monopolized, making it the only winner (Video invaders, 1982). Total sales of VCS are
With approximately 15 million units(6) worldwide , the market has expanded significantly even when compared to the previous generation Odyssey.
You can tell that they are doing big things.

(6) Isao Yamazaki, supra p22

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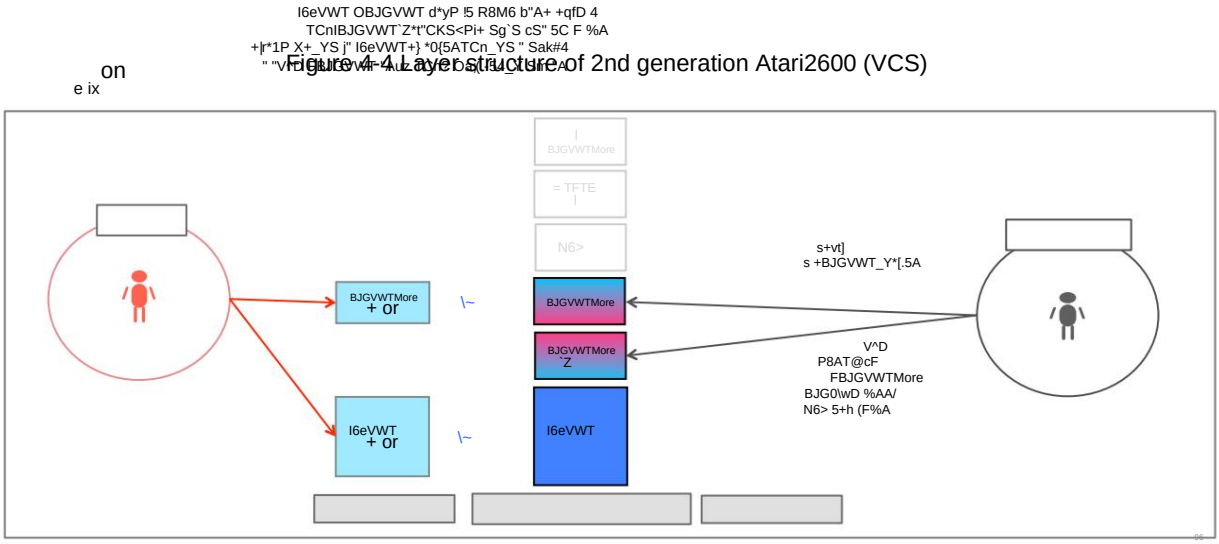

Figure 4-4 Layer structure of 2nd generation Atari2600 (VCS)

Figure 4-4 shows the business model of the second-generation Atari 2600 (VCS) in a layered structure.
Become. Layer separation in each layer of hardware, software development environment, and software
, a complementary player called a software development company appeared, and game terminals became PF
It can be said that it is timing. PF's earnings are hardware sales earnings and the company's own complementary play
It is established by sales revenue of software provided as a player.

At the beginning of 1977, when the VCS was released, game software was developed and released by Atari itself.
and the software development environment itself was not open. In 1979, Atari's game software
A software development engineer became independent and became the first game software development company for dedicated game terminals in history.
When Activision was founded, Atari said to Activision,
We do not have the right to supply it."
It can be seen that it was (7) Atari failed in this action and Activision
A settlement has been reached in the form of paying the license fee for the department. With these backgrounds, outside the VCS
There were no legal barriers to entry, and Atari at the time did not anticipate the entry of outside companies.
I can see that. Since then, Activision has achieved great results in its first year.
Seeing this, other companies actively entered the business, and between 1981 and 1984, more than 30 companies entered the market.
The above company entered the market as a software development company for VCS. At that time, VCS programming
In addition to learning programming by self-study, analysis of internal specifications by reverse engineering etc.

(7) Many documents state that Atari disclosed its software specifications.
Considering the scenery, the author considers that the development environment was closed

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We independently accumulated VCS software development know-how. (8)

3. Atari Shock (Video game crash)

As mentioned above, VCS has greatly expanded sales, and many software development companies have entered the market.
Although it seemed to be successful as a PF, it managed this many software development companies as a license.
The inability to make sense of things led to the collapse of PF.

Although Atari used a licensing system with some companies when selling software,
There is no close control, many software are sold outside the control, and some software is crudely manufactured and sold
was done. As a result, a large amount of crude software flows into the market as second-hand products, and not only second-hand products
Prices fell even for brand new products. In the United States, manufacturers have
There is a business practice of compensating for discounts in order to avoid excess inventory at retailers.
As a result, it was greatly affected by the fact that

Under these circumstances, Atari expected sales of the ET, which was launched during the 1982 holiday season,
(9) , resulting in a large deficit due to returns of excess inventory. This phenomenon is
A chain reaction spread to each game software development company, and Atari's consumer division was split in 1984.
It was sold, and many game software development companies withdrew from the game business. then in the US
In 1982, the market for dedicated gaming terminals in the United States reached 3 billion, partly due to the shift to the home computer market.
In 1985, the dollar scale was reduced to the scale of 100 million dollars.

The above series of events is called “Atari shock (Video Game Crash)” and is called “Atari’s
Management failure due to inadequate licensing system and overproduction”, “Game software development opened as a result
Various theories are being discussed, such as "The lack of users due to the proliferation of crude software due to the fact that it has become a popular software."
Regarding Nintendo's licensing system for the Family Computer, which will be described later, "Atari's reflection"
(10) , the game terminal PF that followed took advantage of Atari's failure.
This is due to the fact that we did not take Atari's license system.
It can be considered that the failure had a great impact on the subsequent game terminal PF.

---

(8) Gamasutra - Steve Fulton, 2008 and Racing the Beam - The Atari Video Computer System Nick Montfort and Ian Bogost, 2009

(9) There are various theories, but it is said that only 1 to 1.5 million copies were sold for a production
of 6 million (10) From Nintendo's Iwata Asks - Super Mario 25th Anniversary Troubles in the early days of the Famicom

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Section 3 Factor Analysis of Winners in Growth Period (3rd to 5th Generation)

1. 3rd Generation Family Computer

Due to Atari's failure, the gaming device market in the United States rapidly declined after 1982. Meanwhile, in Japan, Nintendo will begin to enter the market for game terminals. Nintendo game Full-fledged entry into the video game industry began in the 1980s. Portable game terminal "Game & Watch" A new stationary that can reproduce the arcade game at home with the funds that released the started development of a square-shaped game terminal. In 1983, the stationary game terminal “Family Computer (Famicom)”, and in 1985, the game software “Super Mario Bros." became an explosive hit, and sales of the Famicom also increased. greatly expanded. At the time, the Famicom's sales strategy was "low price," "high performance," and "software heavy." It is said that there were three types of vision.

First of all, it was priced at 14,800 yen, which makes it easy to purchase. Successor to the Atari VCS The Atari2800, which was released at the same time, was 24,800 yen even though it had the same performance. Considering the It was a rating setting.

The reason behind this low price is the development assuming mass production. At the time of sale, it was a home game. The penetration rate of game machines is low, and other game terminals have been developed using general-purpose IC chips. rice field. As a result, the screen resolution is low and the number of colors is limited, so the performance has to be limited. I didn't get it. Famicom develops a custom IC optimized for game specifications In addition to dramatically improving the performance specialized for games, it was also possible to mass-produce with the same standard. With this, the cost is kept down, and although it has high performance, it is possible to keep the manufacturing cost down. fami Con is a terminal that realized the best selection and balance for the technology at the time when running the game It can be said that it was.

Although we introduced a thorough license management system for software, we actively Development companies are encouraged to enter, and more than 1200 compatible software (11) have been released in Japan alone . produced a number of hits. Royalties for this game software are a big profit for Nintendo PF brought

Through these efforts, the Famicom has continued to be produced for as long as 20 years,

(11) Isao Yamazaki, supra p38

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It sold 19.35 million units in Japan and 61.91 million units worldwide(12) . At that time, Japan and North America were the main

Considering that it was in the market, it can be said that it was a big hit product.

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Figure 4-5 Layer structure of the 3rd generation Family Computer

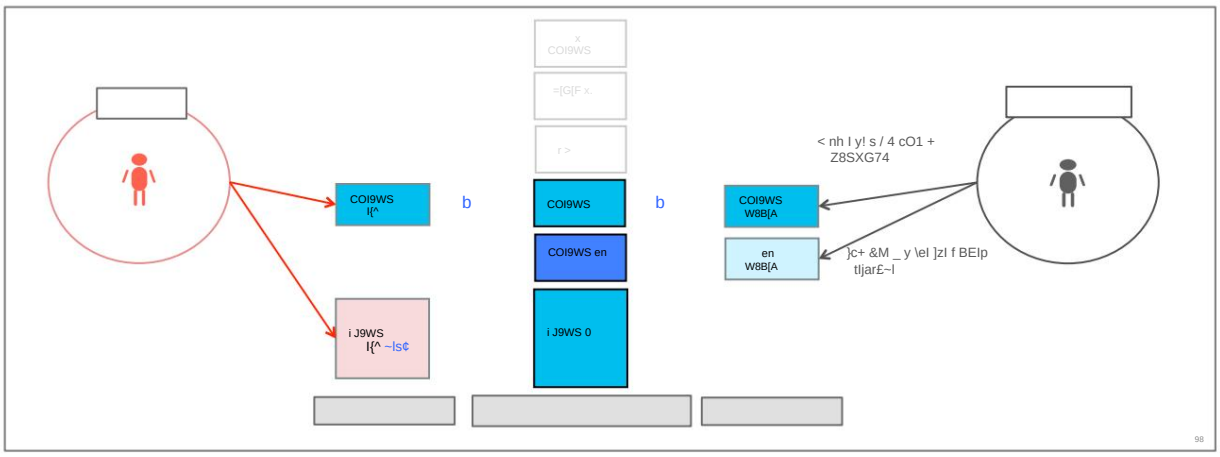

Figure 4-5 shows the layered structure of the third-generation Famicom business model.

A big difference from the previous generation PF is the popularization battle to sell hardware at low prices.

It is an abbreviation and the introduction of a license system. Nintendo itself uses game software as a supplementary player

In addition to generating revenue through sales, license agreements with software development companies (complementary players)

By making agreements and limiting all software to licensed sales,

We have created a structure in which property income is brought to PF.

The Famicom license system is thoroughly implemented as follows. (13)

1. Compatibility and quality checks for all software by Nintendo itself

When releasing software for the Famicom, third parties must comply with the checks specified by Nintendo.

You can't sell unless you pass the test

2. ROM cartridges are manufactured by OEM production by Nintendo

The software development company places an order with Nintendo for the desired production volume, and Nintendo delivers the produced cartridges.

be.

3. Production costs and royalties are paid in full up front

A software development company with poor financial resources creates easy, low-quality software to prevent overproduction of crude products.

I took countermeasures. When joining the license system, screening is conducted, and investment of development equipment is

Capital was also required in units of 10 million yen.

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(12) Isao Yamazaki, supra p38 (13)

Hiroyuki Maeda "History of the Rise and Fall of Home Video Game Machines" (2014) Okura Publishing p50

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By thoroughly enforcing this system, Nintendo has complete control over the supply and distribution of software.
It became possible, and the foundation of the game license business that continues today was completed. at that time,
Because it was a new system, there was a lot of resistance from software development companies, but it was highly attractive as a PF.
This suggests that Nintendo had strong bargaining power.

In the above process, Nintendo has layered hardware, software, and software development environment.
By effectively functioning the “licensing system” in
In addition to creating the “rules” in Chapter 3, the game terminal business model
As mentioned in the previous section, even if the hardware is in the red, the royalties of the game software will continue to support the business.
Establish a “reverse spread” business model that raises the overall profit of the business, and pass it on to subsequent generations
We succeeded in creating the foundation for a business model for dedicated game terminals in Japan.

2. 4th generation Super Famicom

Four years after the Famicom went on sale, the obsolescence of performance compared to arcade game machines.
has become more pronounced. Arcade game machines have evolved year by year, ported to Famicom
Even if you try to do it, you will fall into a situation where porting is difficult in terms of performance. Famicom software development company
Hudson, who has supported the growth of the Famicom as a
Jointly with NEC Home Electronics, we launched a new-generation terminal, the PC Engine, in 1987 with sales of 24,800
Released in Yen. A year later, Sega released the Megadoll, a high-performance successor to the Mark III.
Live” will be released for 21,000 yen. Two years later, in 1990, Nintendo launched the
The successor to the computer, the Super Famicom, was released for 25,000 yen.

Like other models, the Super Famicom is based on the concept of improving the performance of the Famicom.
Despite being the same price level as other handsets and a delayed release date, the Fami
Blessed with sequels to popular works from the Kon era and the entry of many software development companies, the corresponding software is 1400
Over the years, it has sold 17.17 million units domestically and more than 50 million units worldwide. (14)

On the other hand, the impact of the delayed release was significant, with more than 60 companies developing the Mega Drive ahead
Companies enter the market, more than 400 software titles have been released, with 3.58 million units in Japan and 30.74 million units worldwide.
(15) and became a popular PF along with the Super Famicom.

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(14) Isao Yamazaki Ibid.
p72 (15) Ibid. p66

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Figure 4-6 Layer structure of the 4th generation Super Famicom

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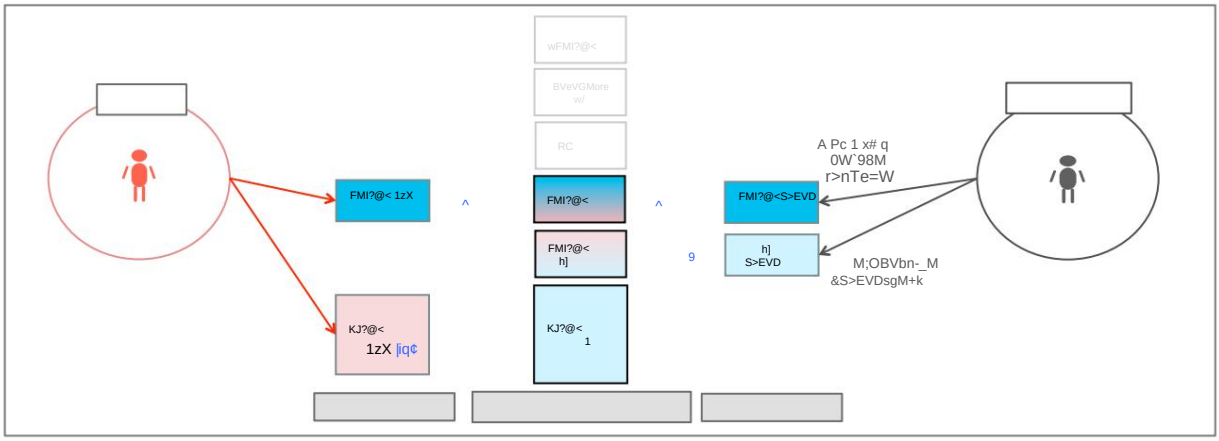

Figure 4-5 shows the layered structure of the business model for the 4th generation Super Famicom.

become.

Leveraging the success of the Famicom, the Super Famicom

The same layer structure as the previous generation is adopted in the form of game software management through a licensing system.

there is Despite being late in development, the Super Nintendo had a brand name called Famicom.

Not only was it supported by the

Fighter II” (Capcom), “Dragon Quest V Heavenly Bride” (Enix)

The winner of the previous generation is also able to win the market share battle blessed with blockbuster titles.

You can see the importance of the brand that has become.

However, in this generation, the phenomenon of soaring software prices due to higher performance is occurring.

Like the Famicom, the Super Famicom used ROM cartridges as a software supply medium.

used. Due to the improvement of hardware performance, the game itself has become large-scale and large-scale, and the required ROM

There is also a demand for larger capacity. Furthermore, the price of ROM skyrocketed in the mid-1990s.

However, due to the increase in ROM and the soaring price of ROM itself, the price of software in the Famicom era was 5000 yen.

While the price ranged from ¥6,000 to ¥6,000, Super Famicom software exceeded ¥10,000.

was not uncommon. Nintendo also lowered the royalty, and although it was somewhat relaxed,

It is said that users were imprinted with the impression that ROM cartridge type games are expensive. (16)

(16) Hiroyuki Maeda, supra p93

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3. 5th generation PlayStation

From 1990 to 1994, the game industry experienced further growth with the success of the Super Famicom.
continued to grow. Nintendo, which still holds the top share,
Continuing a high-risk distribution system based on a license system that pays tee to PFs and pre-ordering of ROMs
Game software development companies were plagued by these restrictions. Especially ROM cards
In addition to the high cost of cartridges, it takes time to manufacture, making it difficult to adjust production.
The industry has no choice but to place a "quit order", and the risk of inventory in the event of unsold goods is all software development
Due to the system imposed on companies, software development companies were required to take risks.
In 1994, SCE released the "Place
It is a distribution reform of SCE.

One of the characteristics of the PlayStation is that software is distributed using ROM cartridges.
The point is that the CD-ROM was used instead. At that time, CD-ROMs were used for music and movies.
It has advantages such as large capacity, low price, and short mass production time.
Although the data access speed is inferior in comparison, Nintendo's Super Nintendo had
It was a standard that greatly solved the problem.

PlayStation, which takes advantage of its large capacity, specializes in 3D polygon drawing capabilities,
New game expressions such as beautiful full CG movies that could not be realized on dedicated mobile devices
made possible. At that time, Sony's workstation team and semiconductor team were engineers.
Collecting the results of Nia's research and making the CPU of a commercial workstation into a PlayStation
Don't just customize and install it, but also install a GPU that specializes in rendering graphics.
It can be said that this is the result of utilizing management resources such as know-how of technological capabilities in home appliance development. (17)

The PlayStation has a selling price of 39,800 yen, which is more effective than the Super Famicom.
However, thanks to the support of many attractive software, it spread explosively, reaching 125 million users worldwide.
10,000 units sold, successfully establishing the leader position in the 5th generation.

Figure 4-7 shows the layered structure of the 5th generation PlayStation business model.
become.

(17) Kiyoshi Tane “Why did PlayStation 3 fail?” (2007) Shinyusha p93

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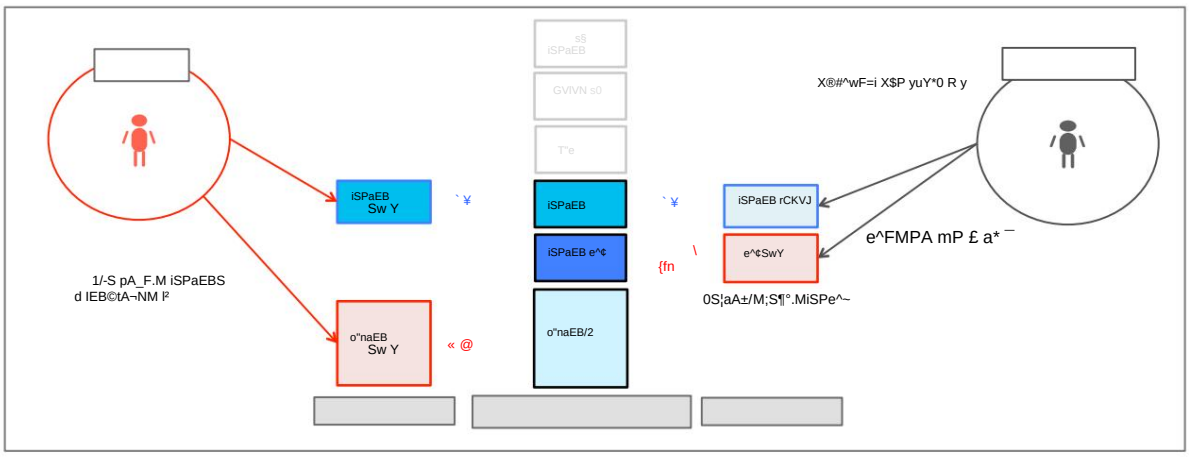
Figure 4-7 Layer structure of 5th generation PlayStation



Like Nintendo's business model, the PlayStation is a software product based on a licensing system.

It employs a quality control and loyalty model. In addition, we also take responsibility for hardware sales.

Following on from Tendo's successful model, the "Reverse Xaya Model," the hardware is available at a user-friendly price.

We have realized that we will provide software.

In addition, the major semiconductor components used in the PlayStation are designed and produced by Sony itself.

Therefore, there is a scenario in which steady cost reductions are possible through innovation in manufacturing technology.

It is expected that it has already happened. In fact, the main unit price, which was 39,800 yen at the time of release,

The price has been cut to half the price of 19,800 yen, and this low price will be reduced when it reaches 10 million units.

Despite the price, it is said that the design was advanced enough to make a profit with the game console itself alone. one

On the other hand, Sega's Sega Saturn is a design that requires cost reduction, and in response to price cuts to compete with SCE,

Inevitably, the main body was in the red until the end. (18) Sony's strength as a comprehensive consumer electronics manufacturer

It can be said that this is the result of being able to make use of Miga's game terminal.

In addition, compared to the previous generation, SCE changed direction significantly, and focused on the software development environment.

layer. First, SCE provided development equipment at a low price. Game software of the time

The development kit of the software requires an investment of several million yen to 10 million yen or more, and it is not necessary for small and medium enterprises.

It was a large investment scale. The measure taken by SCE is a development kit for PlayStation.

It was to offer the formula at a price of 1.5 million yen (19) . To provide a development environment at a low price

At the same time, we actively encouraged the entry of venture companies that could not enter the market during the Super Famicom era.

I succeeded in encouraging

(18) Hiroyuki Maeda, supra
p166 (19) Kiyofumi Tane, supra p107

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Furthermore, SCE supports software development not only for venture companies but also for individuals.
started to Under the theme of "Let's play games", developers are called "creators"
We will not only conduct branding that will appeal to customers, but also recruit amateurs who want to become game creators and create a development environment
Approximately 3,000 people, from students to working adults, collected 1,200 titles in terms of works.
I got it. About 200 excellent creators will be selected from among them, and more than 30 games will be released.
reached. This audition format is a group company Sony Music Entertainment
It can be seen that it incorporates from the point of view of discovering mento music creators, and because it is Sony
It can be said that this was the point of focus.

By actively opening up (opening) these development environments,
More than 200 game software development companies (complementary players) have entered the PF in the six months since its launch
and succeeded in arranging a large number of game software on PF. At first glance, Atari's failure
Although SCE is doing something close to
In order to efficiently involve
It can be considered that the well-balanced function design such as proper management was done.

4. Game software distribution revolution caused by PlayStation

The strategy for involving complementary players in SCE's new entry is the software development environment.
This was done not only in making the boundary layer open, but also in distribution. PlayStation
We implemented a distribution reform that greatly overturned Nintendo's distribution at the time. These are the following four points. (20)

1. As a general rule, do business directly with retailers without going through wholesalers (direct sales by SCE)
2. Supply software mainly on repeat orders, instead of placing large orders for the first time
3. Immediately after receiving the order from the retailer, we will make additional presses and ship them in about 4 days. SCE also in stock
do not hold
4. In principle, maintain the suggested retail price. (Do not allow retail stores to offer discounts) (21)

This method is modeled on Sony Music Entertainment's music CD distribution know-how.
This was a big departure from Nintendo's conventional distribution. (Chart 4-8)

(20) Kiyofumi Tane, supra, p101
(21) Discontinued in 1994 after being advised by the Fair Trade Commission of violation of the Antimonopoly Act

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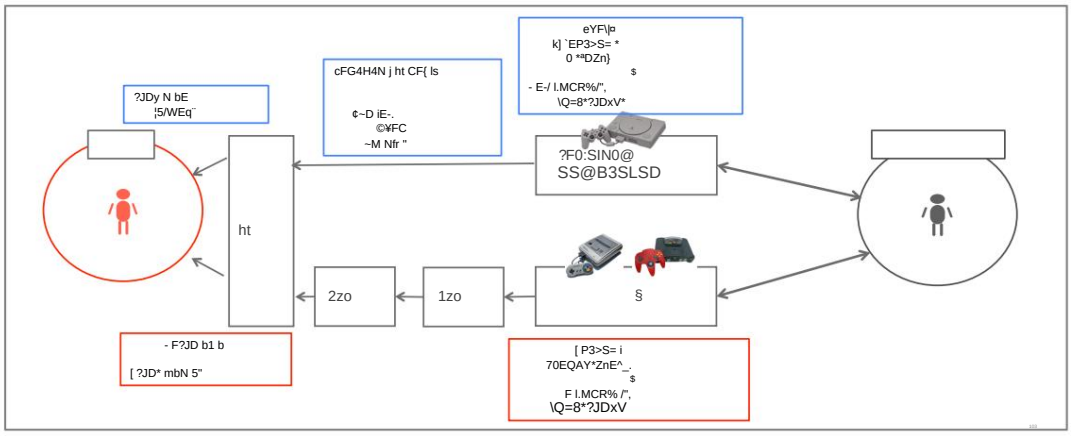
Chart 4-8 PlayStation Distribution Reform



(Source) Created by the author based on the distribution model of Nintendo and SCE

In Nintendo's distribution system, if the number of orders increases, inventory risk will arise.
This creates a dilemma for software development companies, such as the risk of missing a sale if the number is small.
be Distribution of SCE not only reduces the distribution risk of such software development companies,
streamlined the entire chain. Combined with the low price of the CD-ROM itself, Nintendo and
In comparison, we have realized to provide users with the price of the software which is about half the price.

As mentioned above, the PlayStation is happening with the Super Nintendo in the previous generation.
However, problems such as "soaring software prices", "restrictions on development environment", and "restrictions on distribution"
CD-ROM is adopted in the hardware layer, and in the software development environment layer
As a result of advancing the function design for improvement such as distribution reform in openness and software layer,
Succeeded in greatly involving complementary players, and even better game software (complementary product)
It can be considered that the gathering of people led to the success of PF.

Section 4 Factor Analysis of Winners in the Mature Stage (6th to 8th Generation)

1. 6th Generation PlayStation 2

After the worldwide success of PlayStation, the game terminal market will enter a maturity phase.
becomes. In 2000, SCE launched the PlayStation 2 as the successor to the PlayStation.
was released. The selling price is set at 39,800 yen, the same level as when the PlayStation was first released.
was The basic concept is to follow the PlayStation, and to be an AV equipment manufacturer.
High-quality sound such as "beautiful graphics" and "high-quality sound" that make use of Sony's strengths
I am taking the functional route. In addition, PlayStation 2, which was rare for game terminals at the time,

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is also characterized by compatibility with conventional PlayStation game software.

Although it was not fully compatible to run all software, "improvement of screen quality", "reading of CD-ROM

Additional features have been added, such as "Speed up the

It has been successful in promoting

The most distinctive feature of the PlayStation 2 is that it complies with the latest regulations at the time as a software supply medium.

In addition to adopting the standard DVD-ROM, you can watch commercially available DVD-Video discs.

This is the point. At that time, DVD players were still sold at a high price of 50,000 to 80,000 yen.

As a game-dedicated terminal that can also play DVDs, it was popular among game users.

We succeeded in expanding the base to include users who purchased DVD players other than those above. As a result, the DVD

The standard was broadened by the PlayStation 2 and the world of visual media from VHS to DVD.

It became the terminal that became the driving force of the replacement.

Sega's "Dreamcast", Nintendo's "GameCube" and the company's company's fate in the same generation

, and Microsoft launched the Xbox, making use of its PC OS know-how.

A PlayStation that steadily strengthens its functions as a PF while making the most of its generational brand.

2, with a total of 2,876 titles sold and 150 million units sold worldwide(22) .

and surpassed the PlayStation, which was considered a great success, and became the world's best-selling game-dedicated terminal

grown to PF.

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Figure 4-9 Layer structure of the 6th generation PlayStation 2

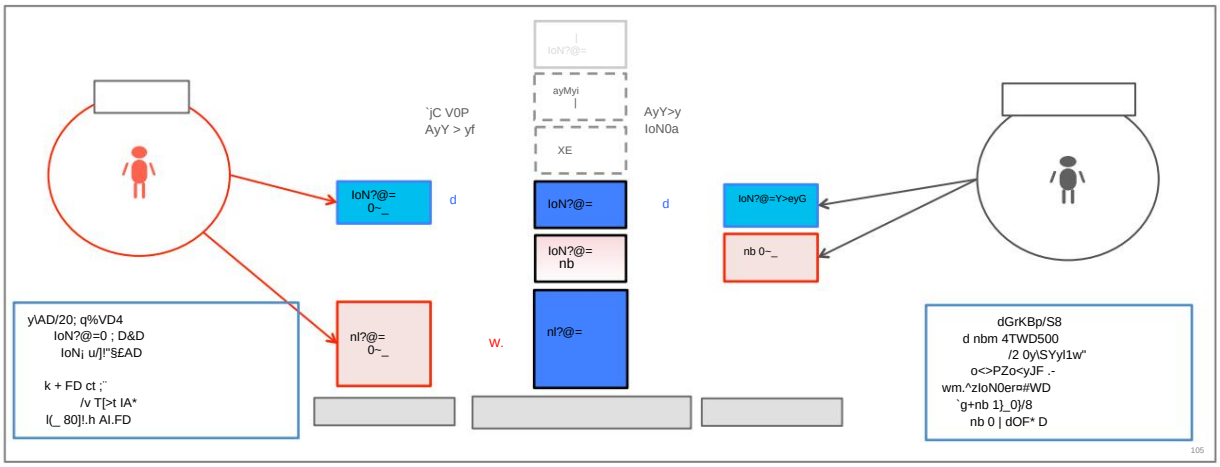

Figure 4-9 shows the layered structure of the 6th generation PlayStation 2 business model.

become.

(22) Hiroyuki Maeda, supra p198

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The hardware/OS layer is still worthy of attention. previous generation playstation
After taking advantage of the success of the first model, we are working to improve performance by leveraging our technological strengths. Also DVD playback function
has greatly contributed to the acquisition of new customers other than game users.
It can be considered that it worked most effectively as a transformation. In addition, the previous generation PlayStation
Compatibility with was also an effective feature. As PlayStation 2 advances in performance,
Compared to the PlayStation, software development was more difficult, and the software development company we had a contract with at the time of the announcement
Although there were more than 150 companies in the industry, there was a problem that compatible software was not readily available.
(23) . After that, after 2001, the software supply stabilized, but during the period until it stabilized,
PlayStation software will continue to be supplied and compatible with PlayStation
Since I was able to play even in the second version, there was no shortage of software supply, and a smooth generational transition.
It can be considered that the generation was possible.

In terms of game software as well, we are leveraging the high performance and the previous-generation PlayStation brand.
and has succeeded in actively involving complementary players,
and Dragon Quest, as well as high graphics from various companies
Software that takes advantage of the performance is on sale. Also, since PlayStation, SCE has been self-developed.
Released software is also being released one after another, and by becoming a complementary player himself, PF is being activated.
Efforts to

PlayStation 2 was an overwhelming success, but in the software development environment,
A problem that can be said to be the beginning of a common problem for generations after this has occurred. high performance hardware
This is due to the large scale of the software development process and accompanying soaring development costs. Supermarket
The transition from the Famicom to the PlayStation led to development for 3D graphics.
As a result, development costs increased from tens of millions of yen to hundreds of millions of yen.
2 further accelerated this, requiring software development investment of about 1 billion yen per bottle(24) .
It is said that PlayStation is a high-level professional that operates high-performance chips in parallel.
While gramming skills were required, Sega's Dreamcast was "very programmable.
(25) ", and this layer is a competitive driver.
It can be inferred that the Reamcast side was superior. However, many complementary players

(23) Hiroyuki Maeda, supra p179
(24) Atsuo Nakayama "Why Social Games Are the Only Profitable?" (2012) PHP Research Institute,
p113 (25) Kiyoshi Tane, supra p116

Machine Translated by Google

Ultimately, we provide game software for PlayStation 2, and the weakness of the development environment layer
Supplementing with other powerful layers has led to great success as a PF.
SCE succeeded in creating a superior development environment in the previous generation and involving complementary players
This is an interesting situation considering that the current generation is inferior to its competitors.

PlayStation 2 also supports network connections, and some
Games that make use of the trust function are also appearing. Dreamcast is also network compatible.
It is also a generation that has begun to enter the upper network group.

2. 7th generation Wii

(Photo 2)

When entering the 7th generation, conventional performance-oriented dedicated terminals and game
The market is growing for unique dedicated terminals that seek new ways to play as game machines.
It will be split in two. Microsoft was ahead
In 2005, "Xbox360" was released for 39,795 yen as the next-generation Xbox machine.
The following year, in 2006, SCE released “PlayStation 3” for ¥59,800.
rice field. Both are performance-oriented polymorphic dedicated terminals that sell high graphics.

A month behind the PlayStation, Nintendo has released the "Wii" for ¥25,000.
The Wii uses the "Wii Remote" (Photo 2), which uses sensors to "point at the screen with one hand."
The conventional controller that allows you to intuitively enjoy the game operation by
It appealed for a feeling of operation that is different from that of the Ra-type operation. The Wii Remote has a feeling of operation that makes it look like it is moving.
``Knowledge '' (26) , ``swing like a tennis racket'', ``swing like a baton'', and ``fishing rod''.
It frees the user from the complexity of button operation, such as throwing it like a steering wheel and turning it like a steering wheel.
By doing so, it succeeded in appealing to light users such as women and children.

Wii sold about 100 million units, and PlayStation 3 and Xbox360 sold about 80 million units each(27) .
Dono's Wii recaptures the top market share for the first time in three generations since the Super Famicom and becomes the winner.
However, the lack of software in the latter half of the Wii due to neglecting multi-platform support,
PlayStation 3 has been held back by users due to the high price due to aiming for high performance too much
Insufficient support for supplementary players due to large-scale development,
There are many strategic mistakes of each player in this generation, such as lack of legs and marketing.

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(26) Hiroyuki Maeda Ibid.
p218 (27) Ibid. p225

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Wii, which aims to acquire light users mainly in households, and the game user cultivated in the past PF

It is said that the market was divided by the strategy of PlayStation 3 and Xbox 360 aiming to acquire the

It is a generation that can see things.

Also, as a major feature from this generation, all models are compatible with online

I want to mention From around 2001, it spread rapidly, and by increasing the speed and flat rate, home game terminals became popular.

It has also made it possible to provide full-fledged services using the Internet, which was difficult to provide in the past.

Addition of functions and correction of defects after release by system update on any terminal

In addition to user support such as, competition and communication between remote users,

Services such as download sales of game software itself have started. On the other hand,

Because it is possible to correct the problem, the morale of the provider, such as the release of unfinished software, and the Internet

It is necessary for the user to configure the settings, and there is no user-side infrastructure such as forcing a certain degree of literacy.

It was after this generation that the harmful effects of housing improvement began to occur.

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Figure 4-10 Layer structure of the 7th generation Wii

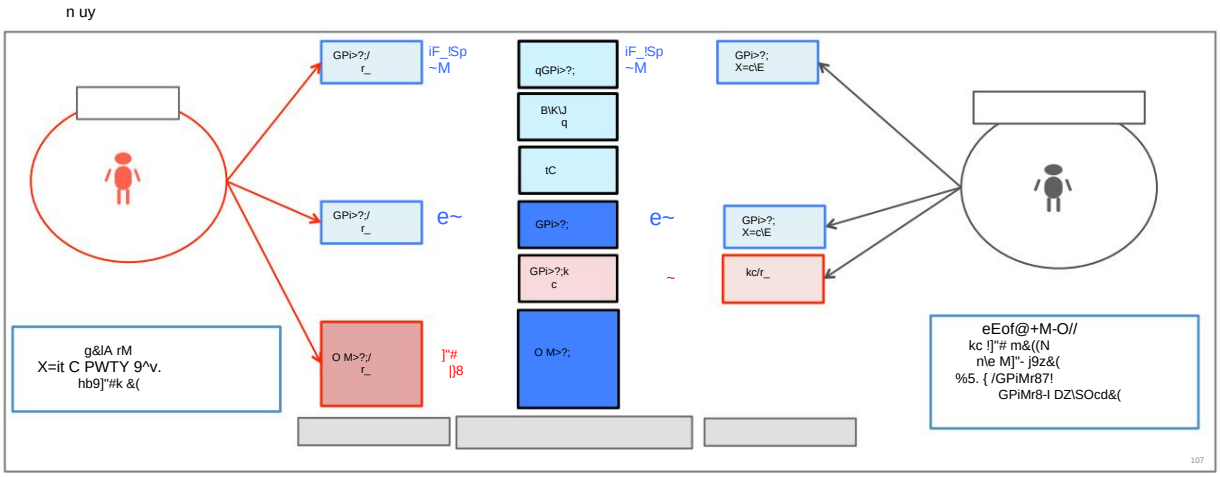

Figure 4-10 shows the layered structure of the business model of Wii, the winner of the 7th generation.

become.

Of particular note is the hardware layer. Selling "new intuitive operability"

It has made a big shift in the winning axis, which until the previous generation was a competition of hardware performance. Wii is the 7th

Although it is a generation terminal, the hardware performance itself is almost the same as the previous generation GameCube.

There is a technical need to make the GameCube's performance "smaller" and "more power efficient".

It was an issue. (28) Nintendo has passed through two generations, Nintendo 64 and GameCube.

(28) From Nintendo's web page, Iwata Asks "Wii Project"

Machine Translated by Google

As a result of reconsidering the easy participation in the high-performance competition from the reflection of SCE,
It can be inferred that hardware was developed on the functional axis.

Since the performance is the same as the previous generation, high-spec type correspondence is not required for software development.
However, new efforts were made to develop software that can be operated intuitively using a remote controller.
For game development companies that were required to work together, new investments were required.
rice field. In fact, of the 340 games sold for the Wii, about 70 were released by Nintendo.
It is software, and the top 10 sales are all Nintendo. (Chart 4-11)

Chart 4-11 Top 10 Wii game software

Rank Title	Cumulative manufacturer sales release date		
1st place New Super Mario Bros. Wii Nintendo About 4.5 million units 09/12/03			
2nd place: Wii Sports	Nintendo About	3.7 million units	06/12/02
3rd place: Mario Kart Wii	Nintendo About	3.6 million units	08/04/10
4th Wii Fit	Nintendo About	3.5 million units	07/12/01
5th place: Wii Sports Resorts	Nintendo About	3.1 million units	09/06/25
6th place First Wii	Nintendo About	2.8 million units	06/12/02
7th Wii Fit Plus	Nintendo About	2.4 million units	09/10/01
8th Wii Party	Nintendo About	2.35 million units	10/07/08
9th place: Super Smash Bros. X	Nintendo About	2.3 million units	08/01/31
10th Mario Party 8	Nintendo About	1.4 million units	07/07/26

(Source) Created by the author based on Nintendo sales data

This is because Nintendo, the developer of the hardware, has the know-how to develop software for the Wii.
This suggests that it is difficult for software development companies, which are complementary players, to develop attractive software.
be.

Furthermore, in the latter half of the 7th generation, PlayStation 3, Xbox360 and high performance will be sold.
This popular software will be sold on multiple platforms on both PFs, but only on Wii
There are many situations where it is not covered. This brings the aforementioned performance to 6th generation
By keeping it to the same level as the model, it's just that the hardware can't meet the performance required by the software.
However, because the controller was special, it was unsuitable for operability, and multi-platform
This is the reason why it was not covered by the system. Attractive software, mainly for families

Machine Translated by Google

Although it succeeded in acquiring many light layers in

It can be seen that this was a strategic failure.

Also, Nintendo has advanced into the network group since this generation. Nintendo

continued to explore many old titles cultivated in the past PF. Wii's "virtual

The "Console" function is exactly that method, and it is possible to download the software that was sold in the past.

It is a service that sells downloads. Famicom and Super Famico that were Nintendo PF

In addition to software for other companies' game consoles such as the Mega Drive and PC Engine,

It sells more than 1,000 software titles for 14 models at prices ranging from a few hundred yen to around 1,000 yen.

Not only games, but also "news", "weather", "communication with users" and "delivery service"

We provide web services that make use of the “place” of the terminal in the living room of the home, such as

It is also unique in that it provides

3. 7th generation PlayStation 3

In the 7th generation, the share base is balanced, and the winner in the previous generation
We also considered the PlayStation
3, the successor to the PlayStation 2, which was

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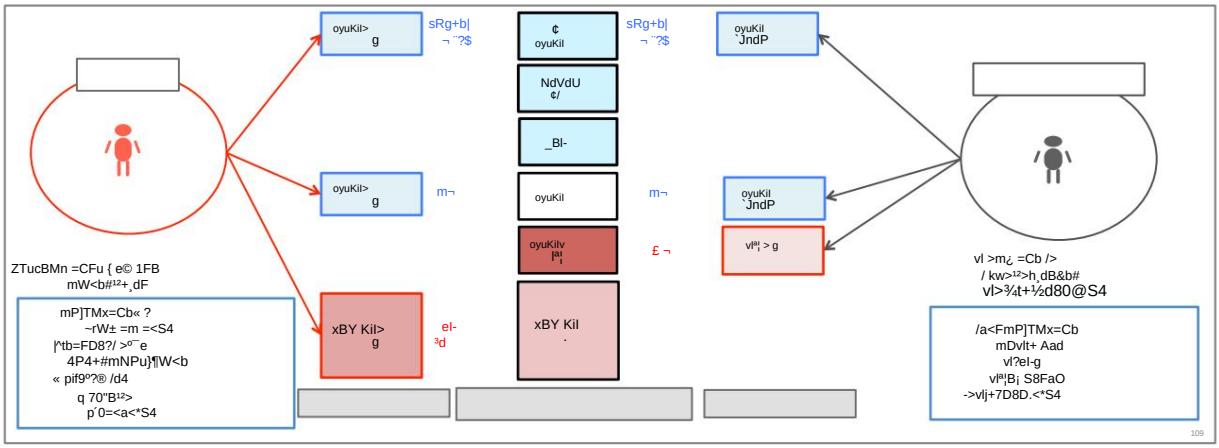
« o> >m/#oyuvl>§0/>CFoyu¹²>¸°<X+ <b

/ " 8 « y ~ Chart 4-12 Layer structure of the 7th generation PlayStation 3



Layer structure of the business model of PlayStation 3, the 2nd Winner of the 7th generation

Figure 4-12 shows this.

Noteworthy are the hardware/OS layer and the software development environment layer. PlayStation

Version 3 followed the success of the PlayStation 2's adoption of the DVD standard, and the state-of-the-art technology at the time.

We adopted the Blu-ray standard, which was a technique. Furthermore, the CPU is not a general-purpose chip, but a proprietary

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The CELL chip, which was developed with an investment of more than 500 billion yen in
A chip (29) with performance comparable to computers was adopted. Too much demand for such high performance
In addition, even the entry-level model costs 49,800 yen, about twice the price of the Wii.
As for the model, it was sold at an unusually high price for a dedicated game device, approximately 60,000 yen.
was On the other hand, hardware development costs have not been absorbed even at this price, and the 60GB memory
Dell's manufacturing cost is about 85,000 yen, and each unit sold results in a loss of 25,000 yen.
was in a state. (30)

Software development costs are proportional to hardware performance, resulting in high development capabilities and large scale
is required, the development cost will soar to billions of yen. Furthermore, the latest
By adopting a sharp chip, it is possible to use a processor that everyone is dealing with for the first time, which has an undeveloped development environment.
It was in a state of "sa", and it was a specification that had not accumulated past know-how. This will
The development of software was delayed, and it ended up falling into a shortage of software.

As described above, PlayStation 3 blindly inherited the successful model of PlayStation 2.
As a result of proceeding with sales without improving the development environment, which was a problem,
software development companies (complementary players) due to soaring development costs and an undeveloped environment
It can be considered that it has fallen into itself.

4. 8th generation PlayStation 4

As of 2014, we are also considering the 8th generation, which is in progress, from the viewpoint of approach.
get The 8th generation is "Wii U" (November 2012) from Nintendo and "PlayStation" from SCE.
4" (November 2013), and from Microsoft "Xbox one" (November 2013).
The end is on sale. In each case, we are working to improve the functions while inheriting the features of the previous generation.
PlayStation 4 and Xbox One on the high-performance route, and Wii U on the functional route.
There is no change in composition. On the other hand, Nintendo and SCE have traditionally released games in the Japanese market first.
In this generation, the major difference is that North America was released first. The stationary type market is shrinking
This is the result of prioritizing North America, which still has a strong market, over Japan, which is a major market in the world.
In the sense of attracting software development companies as well, the strategy of postponing overseas (especially North America) should be taken.
It can be considered that it is becoming difficult to This is one aspect of the weakening of the Japanese market.

(29) Kiyofumi Tane, supra p167
(30) Hiroyuki Maeda, supra p223

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In terms of price, the Wii U is priced at 25,000 yen, which is the same level as before, while the SCE is priced at 39,800 yen.

Compared to the yen and PlayStation 3, the price has been greatly reduced. Due to the previous high price,

We can see a big change in direction in response to users' refraining from buying.

Each PF is still in the launch stage, but as of May 2014, Wii U shipments were 617.

million (31) , PlayStation 4 about 8 million (10 million as of Aug. 32), Xbox one about 500

10,000 units (33) , and PlayStation 4 is one step ahead. actually playstation

4 is a

star from the start of sales, even when compared with past PlayStation series

is doing well. (Chart 3-8)

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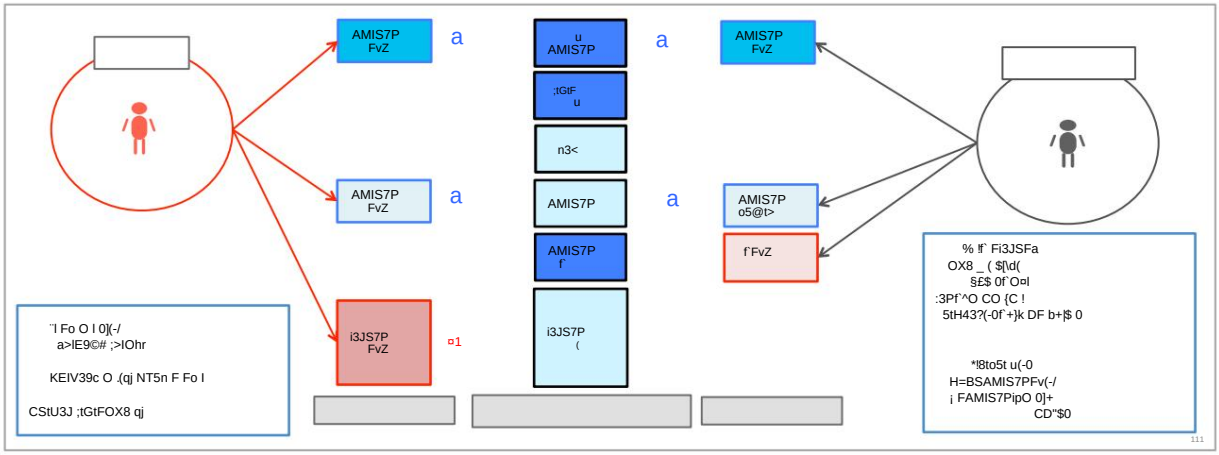
Figure 4-13 Layer structure of the 8th generation PlayStation 4



The business model of PlayStation 4, a candidate for the winner of the 8th generation, is layered.

Figure 4-13 shows the figure. Improvement layers for the failed PlayStation 3

It can be seen that improvements are progressing in all layers. A point worth noting is the “hardware

"Improvement of arrayer", "Improvement of software development environment", "Content distribution PF and distribution type software

Ear function enhancements.

In terms of hardware, we have made great use of reflections on the PlayStation 3. place

At Station 3, the pursuit of state-of-the-art performance led to the design of semiconductors being solidified with proprietary technology.

As a result, it takes a long time to amortize the semiconductor development costs, and the game console itself

Not only is it difficult to achieve a single profit for software development companies, but it is extremely difficult for software development companies

Software has become a difficult PF to develop. Taking advantage of that reflection point, a general-purpose model close to a personal computer

(31) Nintendo published figures

(32) SCE published value

(33) “Xbox One Has Shipped 5 Million Units” IGN Entertainment, Inc. (2014, Apr)

Machine Translated by Google

Aiming for a highly flexible design, we reduced the cost by installing a custom product of an existing CPU.
In addition, compatibility with Windows game development by adopting x86 architecture
intended to enhance sexuality (34) . We dared to improve the compatibility with the Xbox from the development side's point of view.
It is considered that the function design encourages multi-platform and makes it easy for complementary players to enter.
can. As a result, 15 software titles will be released on the release date in Japan.
are having success

As for strengthening the network group, while continuing to promote software distribution sales,
As part of strengthening the user community, the controller is equipped with a “SHARE button” function as standard.
It became so. By pressing this button, you can basically change the screen shot of all software screens.
Shots and videos can be taken and posted using various SNS services. other
By utilizing functions such as sharing their own play with others, game users themselves can become PF
It is a design that enhances functions with awareness of the spread of SNS as an advertising medium.

5. Causal chain of Sony's stationary terminal business

As described above, the game terminal PF is a question of how to make use of the successes and failures of the previous generation in the next generation.
Therefore, it can be seen how they are trying to lead PF to success. Especially in SCE, PlayStation
Leveraging the success of the PlayStation 2, the PlayStation 2 was a big success, but the PlayStation
Version 3 made a mistake, and PlayStation 4 took advantage of the failure to make a smooth start.
It can be seen that the business structure is moving due to causal relationships in the form of rising
be. In this section, from the viewpoint of supplementing the time-series analysis of the dedicated game terminal PF, the SCE play
The history of causality from Station 2 to PlayStation 4, the network structure theory of causality
(Negoro 2008).

(34) “PS4 Aiming for a Game Environment Without Walls” Interview with Impress 2013.3.25

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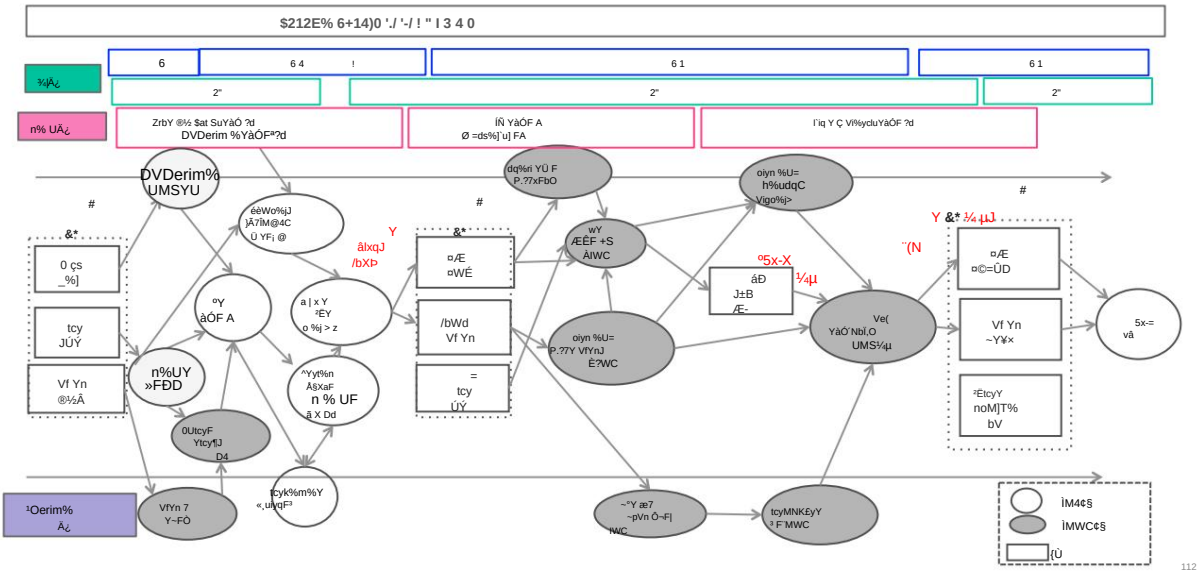
Figure 4-14 Playstation causal chain diagram



A diagram summarizing the causal chain from the launch of PlayStation 2 to PlayStation 4

Figure 4-14. Based on the SCE 'action', the 'intended result' occurred or the 'intended result'

Whether the result of not doing so occurred, and the resulting action and its result are shown in a chain diagram.

As detailed above, the success of the PlayStation 2 is behind the success of the PlayStation.

It was almost as promised. Based on the success, further performance enhancements were made and DVD

It can be said that the act of installing a playback function has made the success even greater.

Following the great success of PlayStation 2, PlayStation 3 is also based on the same strategy.

This is the failure of the PlayStation 3. Soni

VIEW (as a company) consistently says, "Users want high-definition, high-quality games."

), we have been promoting the act of improving the performance of terminals. PlayStation 3 at the time of announcement

In his presentation, he also said, "The PlayStation 3 is priced at a high-end restaurant, so to speak.

There is a price that I ate." "So that you can experience the next generation of games that you have never experienced before.

If you like games, you will definitely buy it," said Kutaragi Kutaragi (35).

As you can see, it is thought that users intended to purchase if high performance was provided. deer

However, users did not support the high price of 60,000 yen, and the support of supplementary players was not obtained.

Therefore, it can be considered that it fell into a chain of unintended results.

After that, SCE steadily made use of the reflection of the failure, reviewed the design thought to be the cause of the failure, and improved it.

(35) Kiyofumi Tane, supra p15

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Doing good and designing the PlayStation 4. Although it does not break the high-spec route,
In addition to improvements in terms of price and development, SNS tailored to the era of network-type services
The “intention” to be accepted by users and supplementary players, such as the cooperation function, is greatly appreciated.
I get it. At present, PlayStation 4 is evaluated as a smooth start, but
In the background, it can be considered that there is a chain of "cause and effect" as described above and "acts" corresponding to it.

Section 5 Importance of Functional Design of Game Terminals

In Sections 1 to 4 of this chapter, we analyzed Winners in the time series of game terminal PF.
However, in successful PFs, there are three common functions shared through generations:
It can be seen that there is In this section, we discuss how these three functions are useful from the perspective of PF.
Consider whether it is working effectively.

1. Functions to ensure the quality of game software

The function that guarantees the quality of game software on the PF side and guarantees the user is the third generation Nintendo's
It is a function designed after Famicom. By taking a license system, all game software
License your software, or even manage ROM manufacturing like Nintendo
It is a mechanism that has a function. Lack of software license management at Atari
It is said to be a system that Nintendo maintained in response to the flood, but following the success of the Famicom,
This licensing system has been consistently applied to all PFs up to the 8th generation.

Through this functional design, game software development companies (complementary players) are screened.
As a result, the quality of complementary players is guaranteed at a certain level. On top of that, the software itself
By reviewing and managing content, it is possible to prevent malfunctions on the user side and prevent inappropriate content from leaking into the market.
can be prevented.

Such guarantee of quality by PF makes it possible for game users to purchase software with peace of mind.
It is a functional design that leads to what can be done and is necessary to strengthen the network between the sides.
can consider.

2. Function to encourage the entry of game software development companies

For PF, the presence of complementary players is important. Complementary play on dedicated game terminals
Year is a software development company, and the functional design of how to encourage entry into PF is PF

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is an important strategy for the success of In this research, the preparation of the software development environment layer
In doing so, the actions of the PF are to prepare the development environment, to design functions to support the developer (company), and
Become.

The issue for SCE, which was a new entrant in the 5th generation, is how to place software development companies.
The question was whether to encourage station PF to enter the market. As mentioned above, the software development company
In order to involve the industry, we provided a software development environment at a low price of 1.5 million yen at that time,
Thoroughly support developers (company), such as launching a project to discover creators.
was As a result, the entry of software development companies, including venture companies, will only be promoted.
to win popular titles such as “Final Fantasy” and “Dragon Quest”
have succeeded in

But then PlayStation 3 fell into failure by neglecting this functional design.
The Rukoto. PlayStation, PlayStation 2 and successful SCE are high performance terminals
continued the route. As a result, game software development costs continue to soar, with development costs
It will expand from 100 million yen to several billion yen, and will become a heavy burden on software development companies.
Software development companies cannot keep up with PF, resulting in a large software lineup.
As a result, the PlayStation 3 lost the position of Winner.

Development environment hurdles that failed on PlayStation 3 in PlayStation 4
The height of the game has been greatly reviewed, and the development specifications that are commonly used for PCs have been adopted to develop the game.
It was designed on the premise that the originator (company) will develop for multiple platforms. moreover
We are experimentally working to release the development environment for indies and encourage the entry of venture companies.
teaming up As a result, we succeeded in arranging a fulfilling lineup at the time of release,
Station 4 is showing a smooth start.

As described above, the function design that supports the software development environment on the PF side will be more complementary projects.
It leads to the creation of layers, and as a result, the game software is enriched,
Functions necessary to strengthen the inter-side network, such as increasing the number of users
It can be considered as a design.

3. Functions to promote communication between users

Game-dedicated terminals are designed on the premise that they can be enjoyed by multiple people across generations. end
It is designed so that multiple controllers can be connected at the end, and as the generation progresses,

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Communication in the game is

It can be seen that the PF side regards this as an important factor.

Although this chapter does not conduct a detailed analysis, since the introduction of portable terminals in the third generation,

A style has emerged in which users carry game terminals and enjoy games outside. in addition

Along with this, users communicate with each other between terminals, exchange items, and play games such as playing games.

The width will be widened. The breadth and standards of communication are also evolving through technological development.

From one-to-one communication using cables, infrared one-to-one communication without cables, Wifi connection

One-to-n multiple communication through connections, terminals communicate with each other by “passing each other” when not playing games

The range is widening greatly in the form of n-to-n communication.

Conventionally, the side-to-side network worked strongly on the dedicated game terminal PF, but the user

There was no particular effect on the intra-side network on the side. However,

With enhanced local communication, the more users around you, the more you enjoy the game

It can be said that the width has expanded and the network effect within the side has been strengthened.

Furthermore, with the development of Internet communication, devices can communicate with each other even when they are in remote locations.

rice field. This makes it possible to extend the functions not only to portable terminals but also to stationary terminals.

However, by enabling the game to run on the server, many people can share the game experience at the same place.

became possible. Unlike local communication with portable devices, communication is possible even between remote locations.

It is characterized by being able to communicate and there is no distance limit, so it can be used not only with domestic users but also with overseas users.

can also be connected. As a result, even if there are no other users playing the same game nearby,

It is possible to expand the range of the game even if it is

Eliminate the distance restrictions that have become, and further strengthen the network effect within the side.

is showing.

Section 6 Summary

In this chapter, among game terminal PFs of the same generation, PFs with a market share of 50% or more are winners.

defined as On top of that, the market leader in each generation has focused and strengthened the Ray

Define the layer as the critical layer, and the leader position from the 1st generation to the 8th generation.

We analyzed the characteristics of the business model of each dedicated terminal PF and the changes in the critical layer.

It analyzes the process and considers the evolution of the industrial model.

Although the decline of dedicated game terminals is being called out these days, it remains unchanged from the perspective of the global market

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Mobile game terminals are not on the decline, but on the rise. (Chart 4-15)

On the other hand, there is also a tendency for the 7th generation and the 8th generation to be in a mixed race between the three PFs.

The importance of strategies to involve not only players but also complementary players is increasing

is in a situation where

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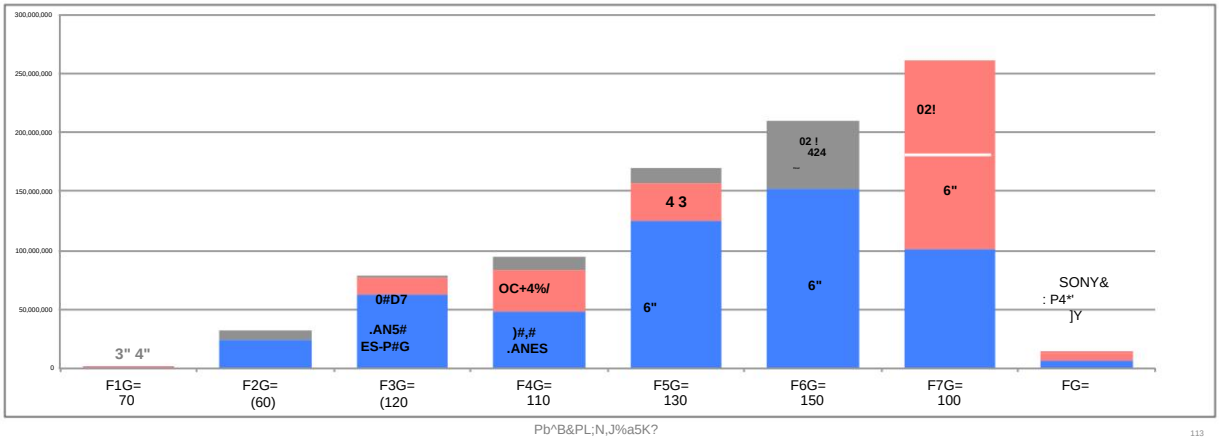
Figure 4-15 Changes in the stationary machine market



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(Source) Created by the author based on the sales performance of each terminal

Through the modeling considerations in this chapter, the following points were clarified.

(1) If WTA is realized in the previous generation, it tends to take a strong position in the next generation as well.

Super Famicom, the next-generation terminal of Famicom, which became a Winner in the third generation, is a Winner

PlayStation, the next-generation terminal of PlayStation, which was the winner in the 5th generation.

Section 2 continues to be a Winner. 5th generation Nintendo 64, 7th generation PlayStation

The reason why we were able to secure a certain market share in spite of the fact that we were facing major strategic challenges was

It can be said that this trend is followed. In addition, the PF of game-dedicated terminals is reset due to the transition of generations.

PF who was able to establish Winner status in the previous generation

It can also be considered that the success rate of business in the next generation will be secured to some extent.

(2) Next-generation consoles that effectively utilize the resources of past generations will take a strong position

PlayStation software compatibility on PlayStation 2 and Wii

Making effective use of past software resources, such as utilizing past game software through the virtual console

PFs that have been captured tend to take strong positions. How to present software in PF

It is an important strategy for game-dedicated terminals to be used as a companion, but the utilization of past software assets

It can be inferred that the success of PF has a certain effect.

It can be considered that maintaining compatibility is a more than a little effective function.

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(3) Next-generation machines that overcome the problems of the previous generation will take a strong position

In response to the collapse of Atari, Nintendo's introduction of a licensing system for the Famicom,
PlayStation's response to rising prices of Nintendo ROM cartridges and distribution restrictions
Adoption and distribution reform of CD-ROM. SCE pursued high performance with PlayStation 2
Acquisition of light users by Nintendo's Wii functionality. in each PF in the 7th generation
The development environment of PlayStation 4 in the 8th generation in response to the soaring development costs
Boundary maintenance. In this way, the winner player was replaced at the timing of the generation transition
In terms of timing, PFs that have improved the problems in the previous generation and have enhanced functions tend to be winners
It is in. The “acts” of formulating a strategy and executing it are not only the “intended results” of the PF side, but also the “intention
In reality, it can lead to the result of not doing anything. how to deal with the consequences
It can be considered that the question of whether or not Japan will continue to do so will be an important factor in the strategy for the next generation.

ÿThe critical layer, which is KFS, is
are migrating to the upper layer of the work group

When arranging the layer structure of the winner PF, it becomes KFS as the generation shifts
The critical layer that PF is strategically focusing on is from the lower layer to the upper layer.
tends to shift to my. (Chart
4-16)

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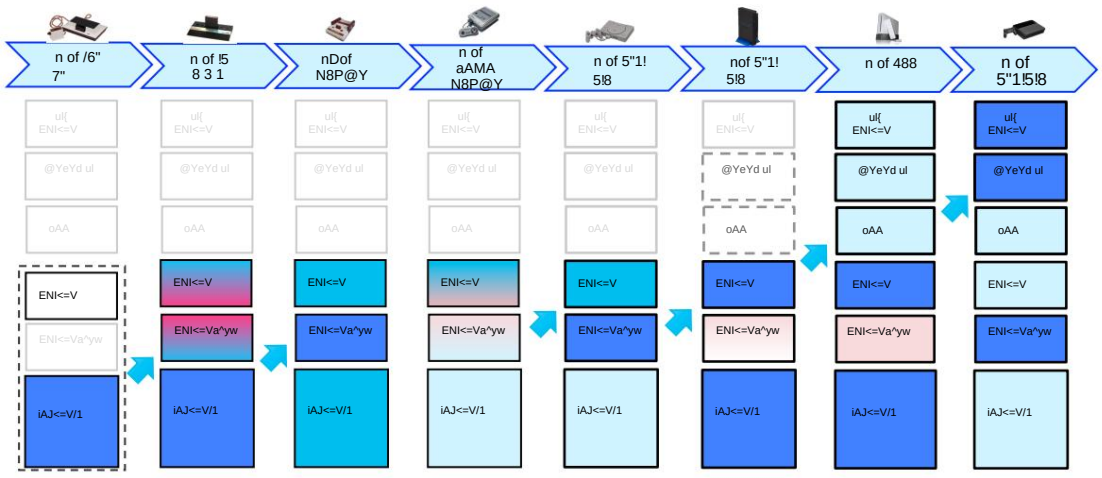
Figure 4-16 Changes in Winner Layer Structure



Through the services of the network group, distribution-type sales of software and battles between users
In addition to the communication function, software updates and sales of additional content,
It will be possible to provide value-added services such as SNS sharing. After looking at user trends,
Value-added functions for users to enjoy more and functions intended to expand the number of users are important.

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It can be considered that it is becoming necessary.

(5) Successful PFs have a common functional design, and excellent functions are the next-generation PF regardless of the company.

inherited by

Functions for quality control of game software, functions for promoting the entry of developers (companies), communication between users

Excellent functions such as functions that activate communication will be strengthened at the timing of the transition of generations.

It is also inherited in the next-generation migration PF. The critical layer that becomes KFS is

Just as we are moving to the upper layer, the layer for adding these functions is also the upper layer

design. (Chart 4-17)

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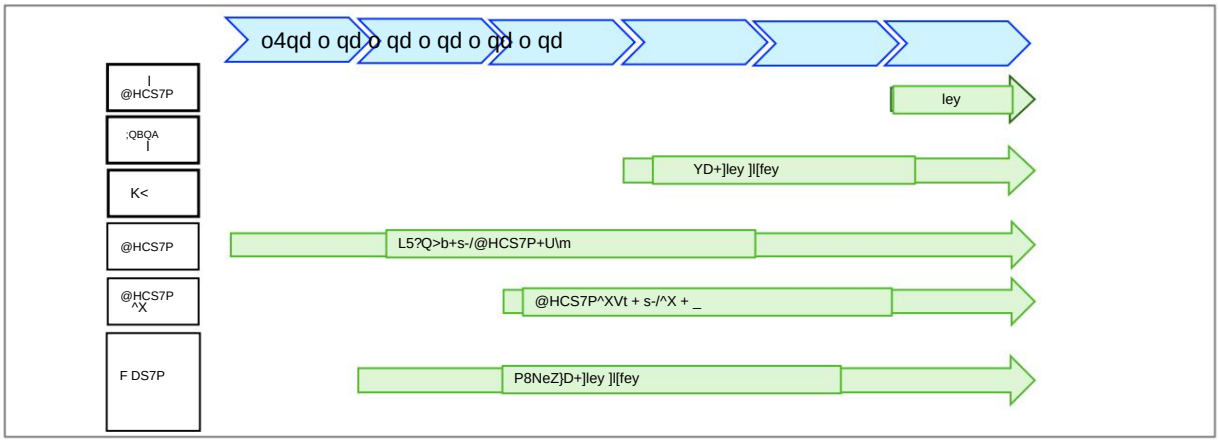
Chart 4-17 changes in functions added over time



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Chapter 5 Consideration of Interoperability of Business Models for Dedicated Terminals and General-purpose Terminals

In this chapter, we will discuss the technological evolution of game-dedicated terminals and general-purpose terminals such as smartphones/PCs.

In the process, we have developed a business model for dedicated game terminals and a business model for general-purpose terminal game services.

In the model, how did they interact, how did they compete, and what was their strength?

What is the reason for the rapid growth of general-purpose terminal game services in recent years?

The view of the layer structure, why the service did not spread in the past.

Analyze based on seat.

Section 1 Definition of the Analysis Framework

1. Analysis setting of dedicated terminal and general-purpose terminal based on usage intention

The analytical framework in this chapter is based on the same layered perspective as in Chapter 4.

model. When comparing game-dedicated terminals and general-purpose terminal game services,

A stationary game intended to be used mainly at home, focusing on the "place" where users use it.

Game software and game services that operate on dedicated terminals and personal computers, mainly used outside the home

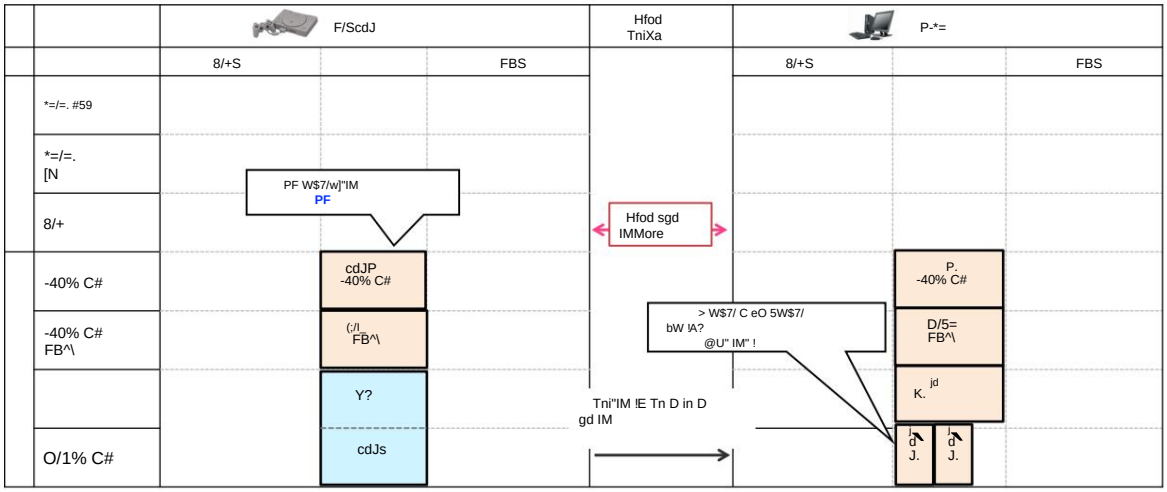
portable game terminals (portable game terminals) and mobile phones (stations) intended to

In the generation that writes game software and game services that run on smartphones)

Compare layer structures. Through this comparison, the interplay between business and industry models

verify.

Chart 5-1 Chapter 5 analysis framework



The analysis framework uses Figure 5-1. The advantages and disadvantages of each PF are explained by the user.

Software development companies (complementary players) and the strengths and weaknesses of each PF on both sides of the layered structure

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It expresses the superiority and interactivity between both PFs of dedicated terminals and general-purpose terminals. game edge

At the end, referring to the terminals that were winners at the time, the performance of general-purpose terminals varies depending on the model.

Therefore, we refer to models that were purchased by general users at the time.

Section 2 Layer Comparison Analysis of Dedicated Terminals and General-purpose Terminals of Each Generation

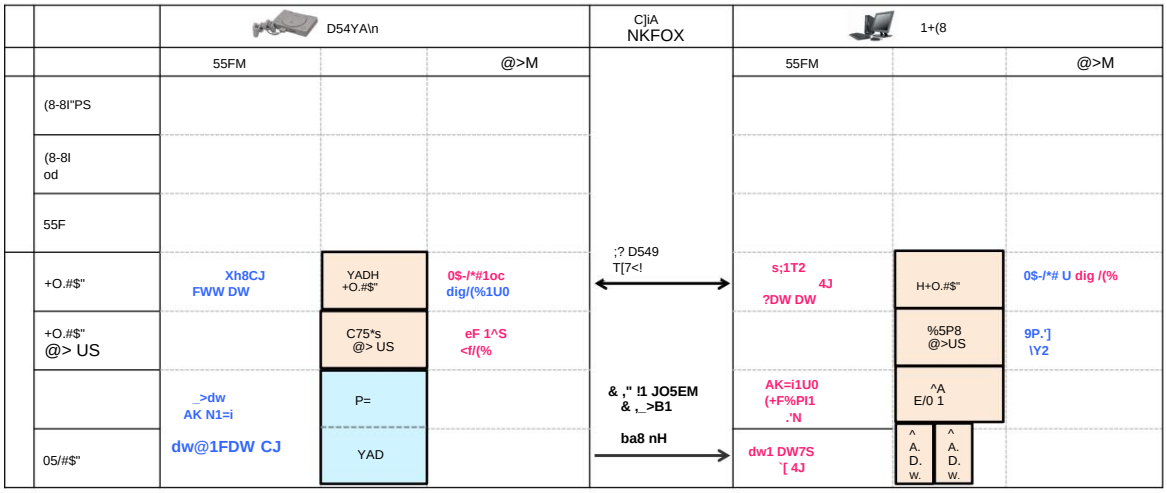
1. Comparison of 1st to 5th generation dedicated terminals and general-purpose terminal layer models

Dedicated terminals and general-purpose terminal game services have almost the same relationship from the 1st generation to the 5th generation

(the personal computer market had barely started), and the layer structure

Since both structures have the same structure, they are analyzed together.

Chart 5-2 Comparison between 1st to 5th generation stationary and PC games



Layered structure of 1st to 5th generation dedicated game terminals and general-purpose terminal game services

, it is shown in Chart 5-2. This generation is from the 1970s to the mid-1990s.

However, it is basically structured around client groups.

The platformer on the side of the dedicated game terminal is the manufacturer of the dedicated game terminal.

Yar becomes a software development company. As mentioned in Chapter 3, dedicated game terminals require a licensing system.

20,000 users because of the business model that uses software royalties as a revenue source.

I was able to purchase a terminal for about yen. Furthermore, software is distributed in units of hundreds of thousands to millions.

The price of the software was relatively cheap at several thousand yen.

On the other hand, personal computers are not yet at the popularization stage and terminals are very expensive at around 200,000 yen.

Since players are different in hardware, OS, and software, it is not PFized,

The user had to select each. For these reasons, the distribution volume of software is small.

Machine Translated by Google

As a result, the price was too expensive, exceeding 10,000 yen. In addition, a soft lie

Since distribution is not managed by the sense system, there is no operation guarantee, and the user must check the operation.

It was a situation where the threshold was high that I had to do it.

Due to the above situation, gaming terminals are becoming more and more popular due to low hardware prices and extensive software.

It received support from many general users and succeeded in expanding the market both in Japan and overseas. one

On the other hand, PC games in the Japanese market are adult games that are difficult to handle on dedicated game terminals.

Niche games such as strategy games that were unsuitable for dedicated terminals due to the need for games and calculations

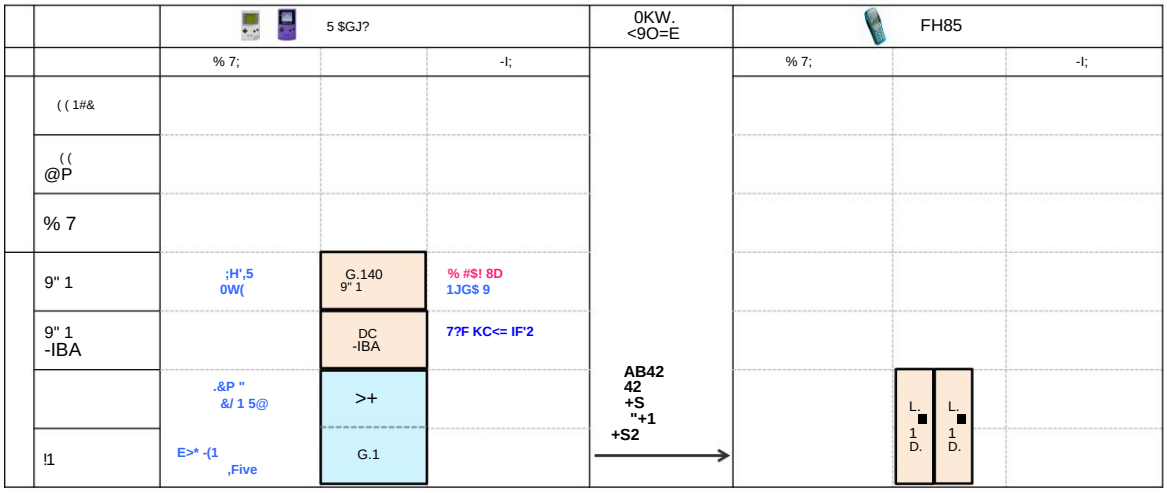
The market has taken center stage. In the overseas market, as in the Japanese market, it is pushed by dedicated console games.

Some PC games that take advantage of the high expressiveness of calculations and graphics are gaining popularity, and future PC games

In addition to being the cornerstone of the development of the game, there are some parts such as porting for dedicated game consoles.

are creating interactions.

Chart 5-3 Comparison between 1st to 5th generation portable game terminals and mobile phones



Represents 1st to 5th generation portable game consoles and mobile phones in a layered structure

and Figure 5-3. Portable game consoles are centered on hardware, just like stationary consoles

It forms a PF with a similar structure. On the other hand, mobile phones are still not popular in general.

The 5th generation started to spread in the 1990s.

was not installed.

I had no choice but to buy a portable game terminal to play games on the go.

It was a situation.

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2. Comparison of 6th-generation dedicated terminal and general-purpose terminal layer models

We will compare the layer structure in the 6th generation (around 2000 to around 2005). real world

In the 1990s, Internet communication entered a period of popularization, and in Japan, from the spread of low-speed lines to

Low-speed but flat-rate services such as ISDN and Yahoo BB actively popularize ADSL lines

As a result, the penetration rate increased from 1.9% in 2000 to 71.3% in 2005.

is. (36) In South Korea as well, the penetration rate has reached 74.8% in fiscal 2005, a level higher than that in Japan, due to national policies.

Considering that the U.S. has a penetration rate of about 34%, the communication environment in Japan and South Korea is

can be said to have advanced significantly.

Mobile phone services have also exploded in popularity in this generation.

73.3% (37) in Japan, 79.4% in South Korea , and 67.6% in the United States (38) .

It can be seen that the situation was progressing. Especially in mobile communication services, Japan is making great progress.

With the launch of DoCoMo's i-mode service in 1999, the

of content distribution such as music and games was beginning to be established.

Chart 5-4 Comparison between 6th generation stationary and PC games

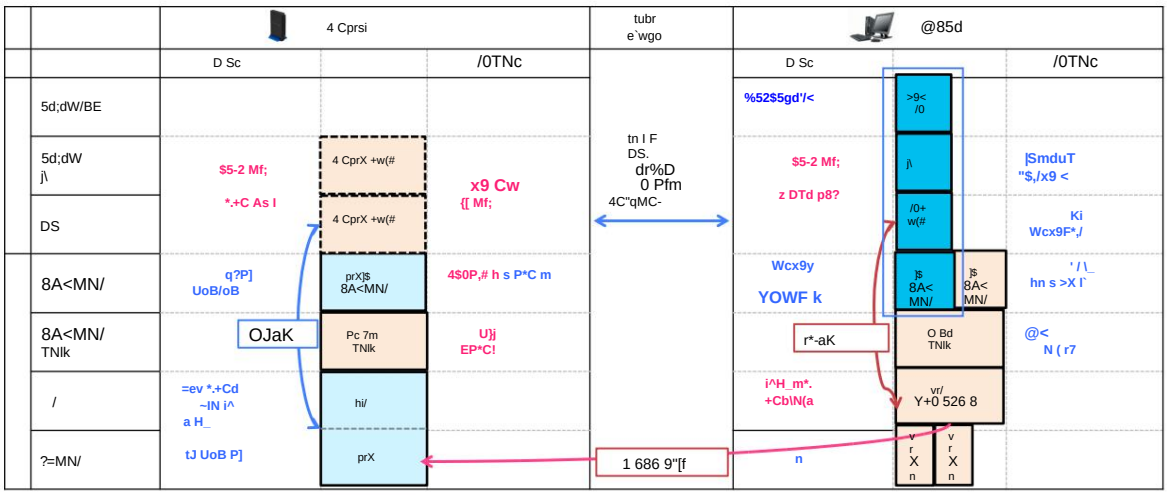

Figure 5-4 shows the layered structure of 6th-generation dedicated game terminals and general-purpose terminal game services.

become that way. It can be seen that the structure progresses to the network group on both sides.

While inheriting the conventional business model for dedicated game terminals, some games are

Work battles and Massively Multiplayer Online (MMO large-scale multiplayer simultaneous participation) type games are on the rise.

(36) Information and Communications Research Laboratories Japan-U.S. Household Penetration Rate of High-Speed Internet

(37) Ministry of Internal Affairs and Communications, Population Penetration Rate and Number of Contracts for Mobile Communications (Mobile Phones/PHS) by Year

(38) Social Reality Data Catalog Changes in mobile phone penetration rate (international comparison)

Machine Translated by Google

However, games that require the processing performance of the PlayStation 2 cannot be played over the network.
There was a limit to the communication environment at the time, and most game software
Most of them were completed on the Ant side.

In addition, Microsoft, which is a player in the OS layer of general-purpose terminals, has
It is this generation that started to enter the market. Are home video game consoles always placed in front of the TV?
As such, it has the potential to be a key point for future dominance in consumer electronics.
It was considered the first step in advancing into the wild. (39) Specialized know-how cultivated in OS development for general-purpose terminals
It can be said that it is an entry that made use of the terminal for the game, and you can see the interactivity as a player.

In this generation, personal computers will enter a period of rapid diffusion. Microsoft's
Triggered by the release of Windows 95, personal computer terminals spread rapidly in general households, and along with that,
The price of a smartphone has settled down to around 150,000 yen, and the number of general households who have started using the Internet has increased rapidly.
(Diffusion rate increased from 29.5% in March 1999 to 64.6% in March 2005(40)). child
Along with this, in games, in addition to conventional packaged products, “Diablo (Blizzard
Entertainment) and Ultear Online (Electronic Arts)
MMO type games that can be played with remote players using communication (monthly flat fee)
Kinsei) was enthusiastically supported by some game fans.

In this way, for online games, the general-purpose terminal side (computer game) is compared with the dedicated terminal side.
Although it was one step ahead of the game, it remained popular with core game users, and was the narrow band at the time.
Because of the environment and package sales as a business model, it was a big commercial success.
did not succeed.

In Japan, Sega and others develop PC online games influenced by the above US titles
Although it was offered as a package software with a flat-rate billing service, the commercial environment was poor at the time.
Business success was difficult.

On the other hand, South Korea, which promoted the spread of communication infrastructure as a national policy, has many general-purpose terminals (PCs).
will create an online game service for South Korea with advanced communication infrastructure
In Japan, game software is not sold as a package, and users can play games through the Internet.
games are downloaded for free, and game companies (developers and service operators) receive support from users.
Service fee is collected according to the monthly usage period, which is the prototype of today's online service.

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(39) Hiroyuki Maeda , supra
p187 (40) Cabinet Office consumption trend survey

Machine Translated by Google

created a viable business model. (41)

At that time, in Korea, not only was there a national push for broadband construction, but also content ventures.

The active development of the PC online game business brought about the prosperity of the business.

As a result, many of Korea's first game titles entered the Japanese market.

After that, competition for PC online games in South Korea intensified, resulting in a plethora of titles.

As a result, as an alternative to the flat-rate billing model that was the mainstream business model at the time,

In 2003, the “item charge model” will appear. provide users with games for free,

Unlike the traditional revenue model that collects service fees on a monthly or other flat rate basis, the game and basic

services for free, and items that can be used in the game for a fee.

This is a model in which the service provider makes a profit.

Since item billing can start the game for free, the feeling of ``trying it out''

Since I was able to start the game with my mind, it gradually became accepted by game users, and in 2005

57 titles, about five times as many as in 2004. (42)

Chart 5-5 Comparison between 6th generation portable game terminals and mobile phones

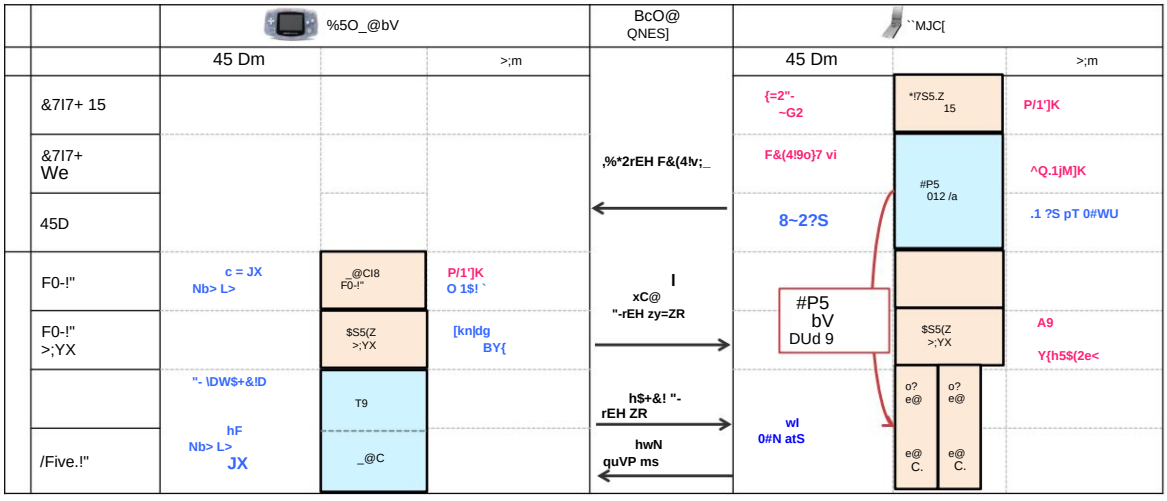

Figure 5-5 shows the layered structure of 6th generation portable game terminals and mobile phones.

Become.

In terms of portable game terminals, the hardware is the same as the business model of the previous generation.

It constitutes a central PF, and like the previous generation, Nintendo has created a monopoly. terminal

The performance of itself has improved, and software that assumes communication between users in various games

(41) Digital Content Association "Digital Content White Paper 2013" (2014) Chapter 4 6 Online Games p113
(42) Digital Content Association "Digital Content White Paper 2013" (2014) Chapter 4 6 Online Games p114

Machine Translated by Google

has appeared, but it has not advanced into the network group, and the client environment
The game design was centered on the premise that it would be fun to play.

With the rapid spread of general-purpose terminals (mobile phones), especially in the Japanese market,
In this generation, the industrial model has changed significantly, and new business models have begun to appear. Day
In Japan, under the initiative of mobile communication companies (mobile carriers) such as DoCoMo,
Developed jointly with a Japanese manufacturer, the terminal price at the time of purchase is kept low in order to acquire a large number of line subscriptions.
In order to increase
Through the incentive system, the terminal can be purchased at a price that is significantly lower than the cost of the handset, ranging from one yen to several hundred yen.
The end was oversold. It is a mechanism very similar to the business model of the game terminal PF,
As of 2005, it achieved a penetration rate of 73.3% and a rapid increase in the number of users.

Another noteworthy layer in general-purpose terminals (mobile phones) in this generation is
It is the distribution PF layer. With the launch of i-mode in 1999 by NTT DoCoMo,
Similar content distribution PFs have also been launched by other companies, led by mobile carriers. i mo
Five months after its launch, it had 1 million users, and 19 months later, in September 2000, it reached 10 million users.
It has grown into a service that has surpassed users. After that, the number of user subscriptions and content providers
continues to grow, reaching 40 million contracts in 2003 (contract rate of 88%)(43) , and as of September 2008,
The number of subscribers has expanded to 48.07 million, and the number of official websites has expanded to 14,470.
Combined with Futbank's Yahoo!
Considering that the number of mobile phone contracts at that time was about 100 million, almost all mobile phone users
was the service used by (44)

One of the features of the imode service is that users can enjoy music and games through mobile communication networks.
“The billing system is linked to the mobile phone fee collection mechanism.
and users were able to easily make payments in units of several hundred yen.” Also, i
Applicants need to be screened before they can participate, and as with the dedicated game terminal PF, the user must select the appropriate
A mechanism was introduced to allow content to be used. In addition, commissions for content sales
It is a mechanism to collect on the PF side, and although the fee is relatively low at 9% (45) , the game
It had a profit model similar to that of the dedicated terminal PF.

On the other hand, the terminals themselves are still in the period of popularization, so in terms of performance, game-dedicated terminals are superior.

(43) NTT DoCoMo Report
2009.2.23 (44) Telecommunications Carriers Association
Mobile Phone/PHS Contracts 2008 Data open to anyone” (2010.7.14)

Machine Translated by Google

In comparison with the quality, performance, and fulfillment of mobile phone games, the game terminal PF side is overwhelming.
However, it is only a supplementary pleasure when using a mobile phone.
rice field. In overseas markets, platform-type services such as Vodafone Live
Although it has appeared, it has not developed to the level of enhancement of upper layer services as in Japan.
The market for enjoying games on mobile phones had yet to emerge.

As described above, in this generation, general-purpose terminals are
(Mobile phones) have an advantage, but in terms of terminal performance, software quality and completeness,
devices for games have a great advantage, and from the viewpoint of “playing games”, there are still devices dedicated to games.
It can be considered that there were more users to choose from. However, general-purpose terminals (mobile phones)
The fact that network-connected services preceded it was significant, and the game business was started after this.
It will be a turning point in the development of content-type services aimed at the future.

3. 7th Generation Dedicated Terminal/General-purpose Terminal Layer Model Comparison

We will compare the layer structure in the 7th generation (around 2005 to around 20010). real world
In the 1990s, Internet communication developed significantly all over the world, and in Korea and Japan, DSL connections and FTTH
As the speed of lines has increased due to connections, etc., the so-called broadband generation has progressed.

The spread of 3G standards has progressed in mobile communications as well, making faster and more stable connections possible.
In addition, in Japan, communication costs are reduced in the same way as fixed lines in the form of "packet flat rate"
fixed plans became popular. Along with this, the content itself is also a conventional simple
data, as well as browser games and SNS services with more transactions.
service will appear.

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Chart 5-6 Comparison between 7th generation stationary and PC games

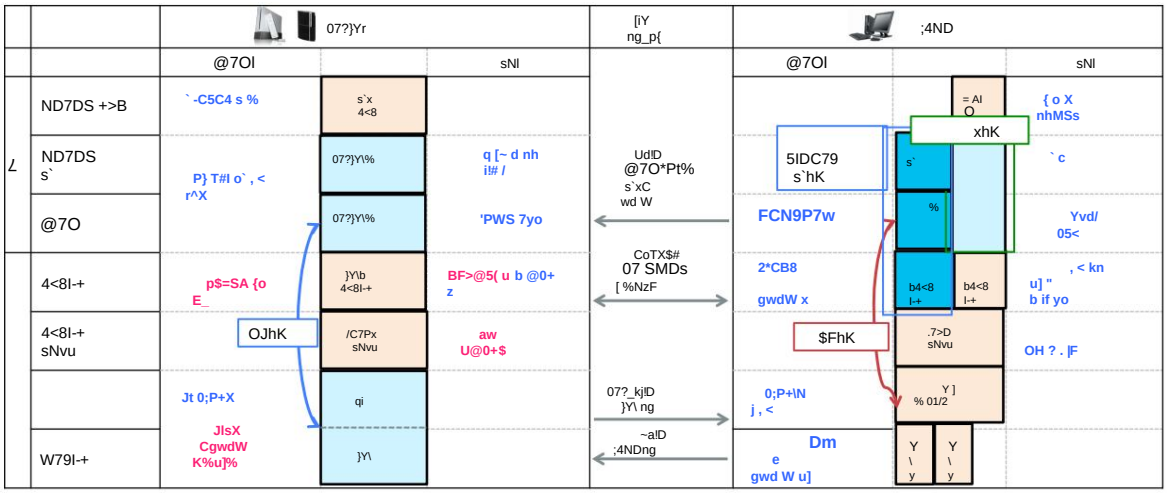

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Chart 5-6 shows the layered structure of 7th-generation dedicated game terminals and general-purpose terminal game services.

become that way. The structure is further advanced to network groups on both sides.

Dedicated game terminals will inherit the existing business model, while the network group's services

We are enriching our services. With the premise of broadbandization, we are only selling software by distribution.

In addition, the game software itself takes advantage of the high-speed line to perform actions such as FPS (First Person Shooting).

Offers an environment for online battles between users with high-quality game software that is highly actionable and requires a large amount of processing.

We provide services that further enhance the communication-type user experience. difference

In addition, for billing and settlement, we will introduce mechanisms such as linking with credit cards and prepaid payments.

By introducing it on the PF side, flexible payment methods such as monthly payment and item-based billing desired by software development companies will be available.

Facilitates pricing.

Game-dedicated devices include Wii, PlayStation 3, Xbox360, and multiple PFs.

While reaching a record high in terms of volume and unit sales, package sales of both hardware and software

A business model that relies on “things” that requires sales and initial investment

Unavoidably, development costs for both hardware and software continue to soar.

Problems as a model are beginning to be exposed, and shadows as a PF business are beginning to appear.

was

In the midst of various problems being exposed in the process of growth and competition for game-dedicated terminals, general-purpose terminals (PCs)

game services will further expand in this generation. Focusing on developed countries

PCs have become a daily necessity, and as of 2008, about 86% of households in Japan have Internet access.

Computers that can connect to the Internet have become popular. Home-use game machine that can connect to the Internet

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Considering that the prevalence rate of 20%(46) in the same period, there is a large difference in the prevalence
I understand. In addition, the performance of personal computers as terminals has improved in line with technological evolution.
Even if it is a personal computer that has not been customized (invested) separately, a certain level of game is
The performance was stable enough to make it work. As a result, the long-standing problem of general-purpose terminals
However, it was said that "the game software may not work depending on the performance of the hardware".
problem will be greatly reduced.

From this generation onwards, from the viewpoint of "hardware that allows users to play games"
In terms of performance, there are two types of devices: “game-dedicated devices that are more stable in terms of performance by specializing in games” and “edge devices.”
General-purpose terminals (computers), which have an overwhelmingly large number of end users, will begin to polarize.

In addition, in the network group, due to the spread of broadband lines,
Development of game software on the premise of communication for general-purpose terminal games as well as software for terminals
In addition to the progress in the use of personal computers overseas, especially in the United States, the characteristics of personal computers as general-purpose terminals are being utilized.
However, PFs for downloadable software such as Steam have started to appear. in this PF
does not have inventory and can change the sales amount fluidly according to the user's reaction.
In addition to the merits for both the user and software development side due to the flexibility of the price, online
Assuming connection, confirm through authentication whether the software is from a legitimate sales channel
It also led to the advantage of the software development company side that it can be done. As above,
Gaining popularity mainly among core users by taking advantage of the unique advantages of online services
It will grow significantly over the next generation.

In addition, it is linked with SNS such as Facebook in overseas, mainly in the United States, and mixi in Japan.
It is also this generation that the game service that did this started. SNS such as messages and diaries
was intended to promote communication between users by posting
In 2007, Facebook launched an application for PFs to improve the active rate of users using the service.
When we released an API for developing applications, the number of registered users increased (as of 2007, all over the world
Many game development companies with 50 million (47)) in the world have entered the market, and many games use Facebook IDs.
It will be provided in a collaborative manner. Following this, similar APIs will be implemented in other SNSs as well.
Since it will be released to the public, it is possible to enjoy it for free, and an initial investment is required.
spread mainly among light users.

(46) Ministry of Internal Affairs and Communications, 2012 Communication Usage Trend
Survey (2014) (47) Facenavi 2012.10.5

Machine Translated by Google

As described above, this generation is a generation in which major changes have occurred in general-purpose terminals (PCs).

As a result, core game users are purchasing games using game distribution PF on general-purpose machines (PCs).

and transition to online games, semi-core users are online while utilizing dedicated gaming terminals.

Use of in-type services, light users use game-dedicated terminals such as Wii and enjoy functional games

Differentiate by user in the form of enjoying games or using SNS game services.

when FOM started considered that it is the timing

Chart 5-7 Comparison between 7th generation portable game terminals and mobile phones

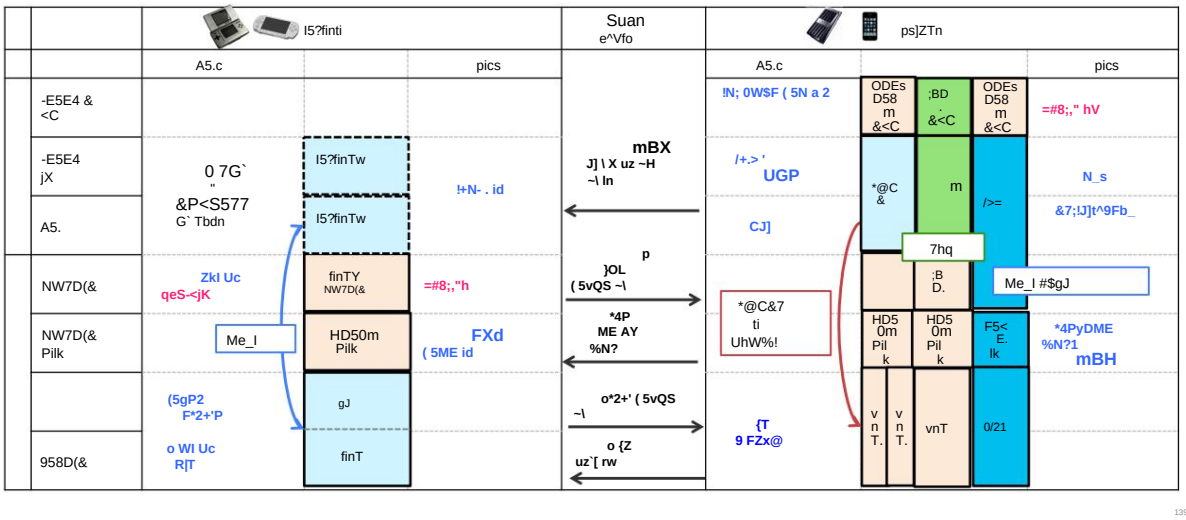

Figure 5-7 shows the layered structure of 7th generation portable game terminals and mobile phones.

Become.

In terms of portable game terminals, the hardware is the same as the business model of the previous generation.

It constitutes the main PF, and Nintendo continues to be a strong player as in the previous generation.

However, SCE is making use of its stationary terminal know-how to enter the portable terminal market. appointed

Tendo has two screens, SCE has a high-performance game terminal, and the performance of the terminal itself has been improved.

Furthermore, network support enables online upgrades of hardware and software.

made updates possible. However, unlike stationary types, personal computers, and mobile phones, online

If you can communicate with other users online, such as communication battles via

Such functions are not included in the specification.

Various business models for general-purpose terminals (mobile phones) will appear in this generation, just like personal computers

It will be done. Continuing from the previous generation, mobile phones have passed the popularization period,

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In Japan, as of 2011, it reached 120 million contracts(48) , making it the only one
It has grown into a market that has become a daily necessity. With the spread of the 3G standard, line speeds have also increased.
Band communication data communication will be dramatically stabilized.

With the improvement of this data communication service, web services that assume use on mobile phones
In the game field, mobile game services that utilize SNS in the same way as PCs are becoming popular.
(social games) grew significantly. Use on PC terminals in North America
In response to the spread of social games centered on mobile phones (feature
Phone) is expanding social games. Unlike North America, Japan does not have Internet access.
Compared to overseas, mobile phones (feature phones) are more common than PCs.
(49) , a social game market different from that in North America was formed. especially Japan
is a social game portal specializing in GREE, DeNA and feature phones
A type of PF player has appeared, the game is free to download, and content is charged.
It grew rapidly due to the item billing model.

In Japan, mobile carriers will continue to lead the development of handsets and distribute content.
Having maintained high profitability by combining PF, the above-mentioned social game portal
With the advent of PF, players are separated into client groups and network groups
It can be said that the movement to do so is characteristic of this generation.

And later in this generation, Apple introduced the iPhone. Apple is hardware,
The integration of all layers of OS, software development environment, user ID, content distribution PF
There is a characteristic, it operates with a touch panel, and operates with multiple software portable terminals like a personal computer
Establish the position of a new generation of mobile phone terminals called "smartphones" that can
did (50) . In addition, we created a content distribution PF led by the terminal manufacturer and started software development.
By making the environment open, we succeeded in involving various software development companies, and as a result
content distribution PF led by mobile carriers, content
It has realized the separation of software companies (including game development companies).

This generation is the timing of Apple's entry into the market, and it will not be until the next generation that it will grow significantly.
However, with the emergence of global-scale distribution platforms from this generation, game software development companies and video

(48) Telecommunications Carriers Association Mobile Phone/PHS
Contracts 2008 Data (49) Digital Contents Association “Digital Contents White Paper 2013” (2014) Content Field
Trends (50) Touch Panel Mobile Phones Developed in the 1990s However, in terms of establishing the position of the current “smartphone” as a device, we believe that Apple has had a large influence.

Machine Translated by Google

The view that various supplementary players such as content companies have entered the general-purpose terminal market of mobile phones

It can be said that it is a big change.

4. 8th Generation Dedicated Terminal/General-purpose Terminal Layer Model Comparison

We will compare the layer structure in the 8th generation (from around 2010 to 2014, currently in progress).

In this generation, Internet communication has achieved further development, and not only developed countries but also developing countries

The Internet service market expanded on a global scale, including especially smartphones

In 2010, there were 500 million contracts worldwide, but in 2013

As of 2018, it has grown to 1.9 billion contracts, and is expected to exceed 5 billion in 2018.

there is (51)

In terms of line speed, FTTH is spreading for fixed lines and LTE for mobile phone lines.

services using fixed lines are becoming more popular than movies and TV dramas.

Delivery services for data with large file sizes, videos and large amounts of data even on mobile phones

The presupposed services have spread significantly. In game services as well, large-capacity,

It will be a generation that has greatly progressed in content.

Chart 5-8 Comparison between 8th generation stationary and PC games

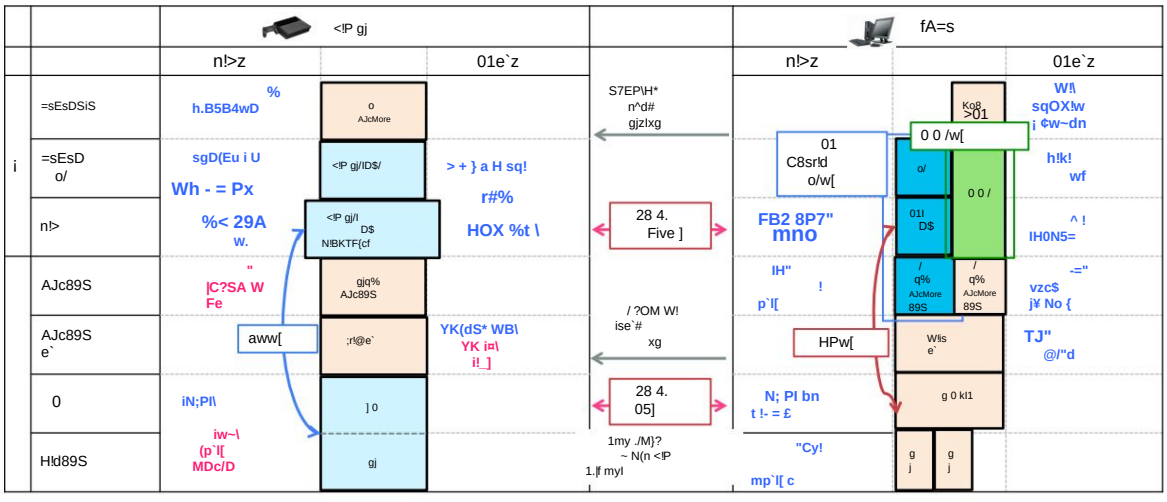

Figure 5-8 shows the layered structure of 8th-generation dedicated game terminals and general-purpose terminal game services.

become that way. There is no big change in the layer structure, but on the general-purpose terminal side (PC)

The advantages of mobile phones and their superiority as a PF are becoming more conspicuous compared to dedicated game terminals.

(51) The Broadband Commission, UNESCO “The State of Broadband 2014” (2014)

Machine Translated by Google

there is

As with other generations, dedicated game terminals inherit the existing business model while

Enhancing group services. As mentioned in Chapter 4, PlayStation 4 success factors

However, it is particularly focused on services such as software distribution services and SNS linkages.

Both Wii U and Microsoft's Xbox one are assumed to be connected to the Internet.

The feature is that it is a terminal that In addition, Nintendo and Sony use User ID

Integrate IDs that were separated in conventional portable network services.

We can read the direction of strengthening network services for dedicated terminals as a whole.

can be At Microsoft, general-purpose terminals (OS and cloud-based services)

We will promote the integration of the IDs used for game terminals and the IDs used for game terminals, and increase the number of general-purpose terminal (PC) users.

You can read the directionality of trying to achieve interactivity with.

In the global market, SCE's PlayStation 4 is off to a good start.

In this market, the start-up of all PFs is slow, and smartphone games

It can be inferred that the laser is being eroded. Game terminal side also network type service

Although we are working to strengthen our flexible billing system,

Users who are concerned about the size of the initial investment due to the inability to break away from the rip-off distribution model

It can be inferred that people are moving away from the market, and the impact is particularly large in Japan.

On the other hand, sales of general-purpose terminals (PCs) grew significantly, mainly due to overseas online games.

continues. According to a JETRO survey, in 2006, sales in North America amounted to $1.4 billion.

Of which, PC online game sales accounted for $1.18 billion, and online game console sales accounted for 2.2 billion.

billion dollars, which is small compared to the gaming device market of approximately $18 billion.

In the market of online games, general-purpose terminals (PCs) have a larger scale.

Regarding this, North America has a high Internet penetration rate and a

The environment is being improved on the infrastructure side, and it is attracting a large number of light users.

is said to be a major growth factor (52) . Furthermore, in South Korea, the majority of users are dedicated to gaming.

91% of the population in South Korea (86% of women) use online games on PCs instead of devices

have played games, and the majority do so at Internet cafes on the go rather than at home.

(52) JETRO, “North American Online Game Market Survey” (2008) From 2001 to 2012, the number of light users of PC games has grown from about 28 million to about 77 million. Approximately 3.8 million core users in 2012

Machine Translated by Google

It is characterized by being able to (53)

Even in Japan, PC online games are undergoing new changes, and DMM.com and other
There are cases in which an Internet service company that had not entered the game business develops and operates
It is increasing. In 2005, the market size was around 82 billion yen, but in 2012 it was around
It has grown to 140 billion yen(54) , and it can be said that the business is on a growth trajectory like other countries.

The background to these growth is the interaction between PF players and complementary players in online games.
The change in structure can be found as a factor.

First, titles that are popular on dedicated game terminals are being actively rolled out to PC online games.
progressing. "Dragon Quest X" (Square Enix) "Phantasy Star On"
Line 2" (Sega) "Monster Hunter Frontier" (Capcom), etc.
Online compatible ported versions of popular titles have appeared in PC games. child
Utilizing the know-how we have cultivated in the development of dedicated game terminals for PC online games,
An increasing number of cases are trying to provide more flexible services by taking advantage of terminals.
It is thought that

Furthermore, there is a tendency toward polarization in play time as well. Traditionally, online PC games
is centered on games such as MMOs that are meant to be played for a long time, and the places where they can be played are limited
There was a feature. On the other hand, there is also the spread of smartphones in social games,
It became possible to play for a short time at any place, but time constraints due to the battery on the terminal side
and the instability of the communication environment. PC online game players
In response to these problems, not only MMOs for long hours, but also shorter play times per game
Introduce a browser-type simulation game (such as DMM's Kantai Collection)
By reflecting the strengths of social games in PC online games such as
It incorporates users and advances evolution.

Initial investment in hardware and software is necessary because it is impossible to break away from the “things” business.
General-purpose terminals (computers) are free delivery and item charging
While actively introducing new business models such as
A situation where changes are beginning to occur, such as promoting development by involving complementary players
Things are happening.

(53) JETRO Ibid. (2008)
(54) JOGA "Online Game Market Report 2013" (2013)

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Chart 5-9 Comparison between 8th generation portable game terminals and mobile phones

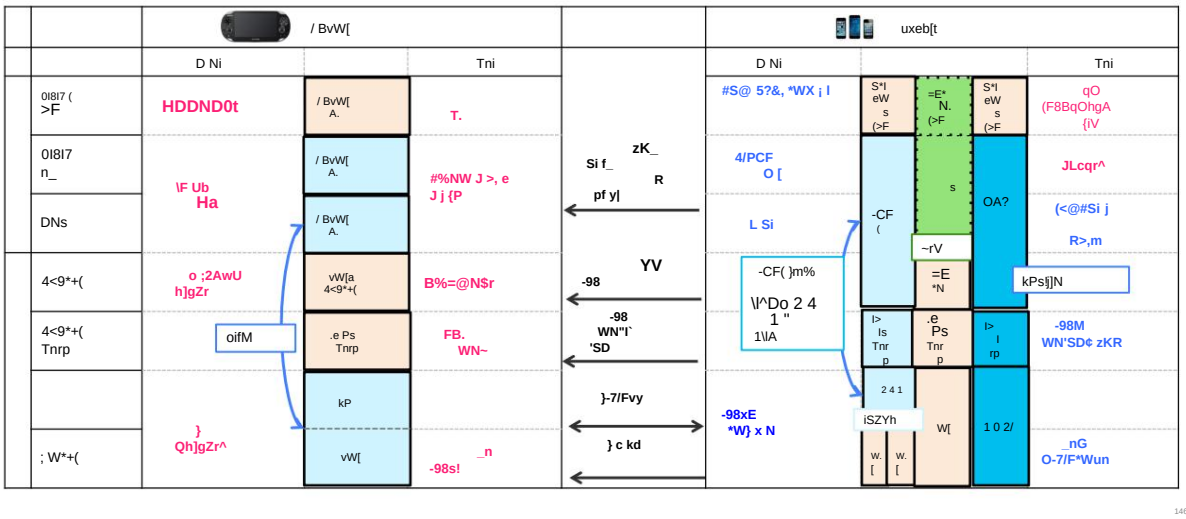

Figure 5-7 shows the layered structure of 8th generation portable game terminals and mobile phones.

be. The superiority of general-purpose terminals (mobile phones) stands out greatly.

As with other generations, this generation's dedicated game terminals will inherit the traditional business model.

In addition, we are further enhancing the network group's services. terminal is also connected to the network.

In addition to hardware and software updates, it can also be shared with other remote players.

Equipped with the same functions as stationary terminals such as Internet communication battles. but the game

Since the dedicated terminal is premised on a Wi-Fi connection, it is equipped with a communication module and can be used at home or outside.

Unlike mobile phones that can be connected to the network anywhere, network-type support

Services will inevitably be limited, and network-compatible games will be limited.

In addition, the performance of the smartphone terminal itself has improved, and the difference in performance as hardware has improved.

Now that there is no difference in the expression of the game by shrinking, children who do not have mobile phones

Light users of other generations are starting to shift to smartphones. In addition,

In addition to being network-restricted, terminals for smartphones are designed with the assumption that they will be used by children.

Therefore, the introduction of a mechanism such as item charge type is limited. This makes

The activities of supplementary players (game development companies) will also be restricted, and as a result, PF and

As a result, the attractiveness of

As described above, in a situation where the performance of dedicated game terminals is lined up, network

In addition to network restrictions and billing system restrictions, the burden of initial investment on the user side, etc.

Due to the overlapping disadvantages on the perfect player side, the attractiveness as a PF is greatly diminishing

is falling into On December 14, 2012, the Nikkei Shimbun also stated, "Nintendo's stock price is in a slump,

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Although Nintendo 3DS has momentum in the Japanese market, it is not selling well in overseas markets
It is reported that the cause is ", and we can see the severe situation of portable terminals for both Nintendo and SCE.

Against the backdrop of sluggish sales of portable terminals, general-purpose terminals are growing due to the spread of smartphones.
Various game services have appeared. The big change compared to the previous generation is Apple's
and the explosive spread of Google's Android devices. Apple is hardware
, Google formed a PF centered on the OS and opened the software development environment
After that, traditional web services (Apple's iTunes, Google's Gmail, etc.) and ID
By collaborating with and creating a highly convenient billing system, we will attract many supplementary players.
succeeded in getting involved. As of June 2014, the number of apps is for both iOS and Android.
Over 1.2 million, Apple's App Store total downloads topped 75 billion
(55) . This includes many applications other than games, so simply comparing
Although it cannot be compared, the number of software for portable game terminals is SCE's PlayStation VITA
As of December 2014, about 500 titles including downloadable content, Nintendo's 3DS
Considering that the target market is about 400 titles at the same time, the difference in the degree of game quality is
It can be said that it is a situation where an overwhelming amount of difference is born.

While the player side of smartphone content distribution PF has grown significantly, the previous generation
SNS game services such as GREE and DeNA, which were strong in
It's becoming In the previous generation, the Japanese market was also centered on feature phones, and line speeds
However, it was not enough, such as "Kaito Royale" (Mobage) and "Fishing Star" (GREE)
The program is processed on the server side through the browser, and the page is updated as appropriate.
The center was a simple game (web application). Entering this generation, smartphones
Improving terminal performance due to popularization, expanding screen size, enhancing distribution PF, and spreading LTE standard
There is also an improvement in line speed due to the web application, and it is possible to process the program on the terminal side.
, which can express content (rich content) with higher image quality and more game-like characteristics.
The shift to installed applications (native apps) progressed.

In the previous generation, GREE and DeNA guided users to web apps through SNS IDs.
Users to guide users, such as getting a settlement fee (40%) (56) by playing the role of PF
It was a PF with substrates as its strength. With the progress of nativeization, applications can be

(55) Apple WWDC (2014) presentation
material (56) Toyo Keizai “Glee and DeNA, fruitless overseas investment” 2013.2.13

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Installation is required, and for iOS, download via the AppStore is required.

(57) . As a result, supplementary players (game software development companies) will continue to support GREE and DeNA.

If you try to provide a native application via the PF of , the PF will be duplicated.

In order to avoid this, complementary players say, "Rather than paying GREE and DeNA a 40% fee,

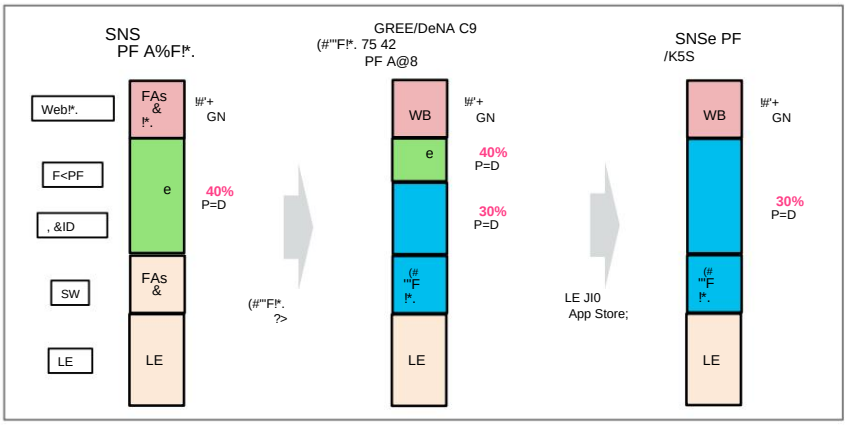
It is more attractive to distribute applications directly to the AppStore and Google Play, which charge a 30% fee

It is also attractive for entering overseas markets."

App delivery PF such as "Nho Entertainment" and "Monster Strike (mixi)"

It can be considered that the shift to a model that distributes directly to (Chart 5-10)

Figure 5-10 PF centering due to migration from web application to native application



As described above, in this generation, general-purpose terminals (mobile phones) have improved performance as terminals.

In addition to above, various players such as hardware, OS, and web portals can be registered as PFs.

It is the generation where the competition took place. Among them, the game is an important core in each PF.

Positioned as content, the view of ecosystem formation such as involvement of complementary players

It can be considered that the content has greatly contributed to the development in terms of points.

Section 3 Changes in Platform Business Models Accompanying Development of Communication Infrastructure

Through section 2 of this chapter, we examined the transition of business models for dedicated terminals and general-purpose terminals.

As the transition of the PF layer structure, the critical layer of the

is changing. It can be inferred that this is largely due to the development of communication infrastructure.

be. In this section, we reorganize changes in structure and changes in roles.

(57) From the introduction of the iPhone until 2014, Apple has made it difficult for general consumers to install applications in the terminal specifications.
Only allows distribution via the company's AppStore when downloading

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1. Change from client-oriented to network-oriented

With the development of communication network infrastructure, the design of game software and services has become a specialized
There is a tendency to shift to network groups, regardless of whether they are general-purpose terminals or general-purpose terminals.

Dedicated game terminals up to the 5th generation and PC games are packaged businesses.
Software is sold through retail stores on ROM media such as CD-ROMs and cassette ROMs for a fee.
had been sold. Just insert the ROM into the dedicated game terminal as it is, and on the personal computer
It is possible to play by installing it on the terminal side, and all program processing is done on the client.
It was done on Ant's side.

From the 6th generation onwards, some terminals will begin to support online. of the game
Software continues to be a packaged business, and software distribution is centered on retail sales of ROMs.
However, in order to use the online function, the user side creates an ID and the complementary player
(software development company) or the game PF side and the user are directly connected.
It was decided. Although the game itself could be used offline,
By connecting to a mobile device, it is possible to expand the range of ways to enjoy games, such as enjoying games with users in remote locations.
and became. Program processing is basically performed on the client side, and communication processing is performed on the server side.
It was about doing.

The communication environment will further develop, and MMO games will appear in the 6th and 7th generations.
and becomes. MMO games are available for sale through package sales, download sales/distribution, and various distributions.
In any case, compared to conventional ROM package sales, it may be cheaper
It was provided free of charge and adopted a revenue model such as monthly billing. always on the server during the game
Although it is connected, the program itself depends on the processing on the hardware side, and the terminal itself
high performance was also required.

With the development of mobile phones, users have started to enjoy games on small terminals such as mobile phones.
Become. Due to the low processing power of the terminal itself and the limited data capacity, the network side
was required to process the program and store the data. This allows the client
Access via a browser without downloading software to the server side
Games on the browser side, in which program processing is performed, will become popular. In addition, access
With the introduction of an item-type billing mechanism that pays according to the level of satisfaction and satisfaction,
is a free download, and even light users who charge as needed can lower the threshold and play the game.
It is now possible to enjoy the

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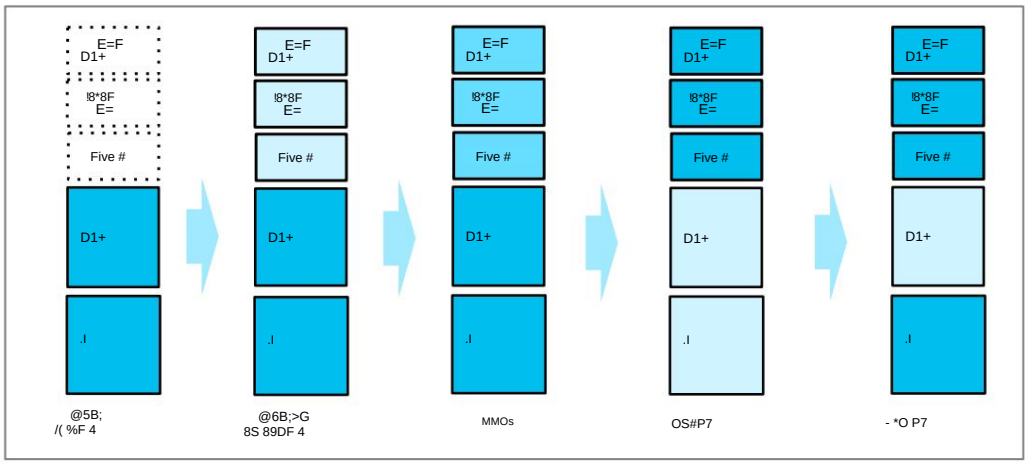
With the spread of smartphones, the processing power of mobile phone terminals improves, making it even more rich.
demand for content has increased. This will enable us to utilize our expertise in developing dedicated video game consoles.
With the active participation of players with advanced skills, the expressive power of conventional client-type games and
The phenomenon of shifting to a hybrid model that combines a browser-type billing system
is happening. Users download the game for free and install the game on their device
As a result, we are heading in the direction of enjoying games with richer content.

Chart 5-11 Shift from client-oriented to network-oriented



As described above, the design as a game PF has shifted from client-oriented to network-oriented.
is doing. (Chart 5-11) As a result, is the game business a user-owned business?
As a result, the distribution of the provider side will change, and the supply side will change.
The structure of the li chain is also changing. Furthermore, game software development companies have traditionally
The business was completed just by developing software, but with the shift to a user-oriented business,
It will be required to manage the community of the system itself. As a result, sales revenue is softly distributed.
It will be recorded over the period of service operation, rather than being recorded all at once at the time of receipt.
In addition to changes in the supply chain, the timing of recording sales and the profit structure are also changing.
It can be considered that the industrial structure has changed greatly.

2. Changes in the role of the platform due to the differentiation of community functions

In the previous section, we described changes in the layer structure of the game PF.
The perspective that the role of the PF is changing along with the evolution of the PF is called “the changing Japanese storytelling.”
(2013)” with reference to the opinion of Miho Nojima.

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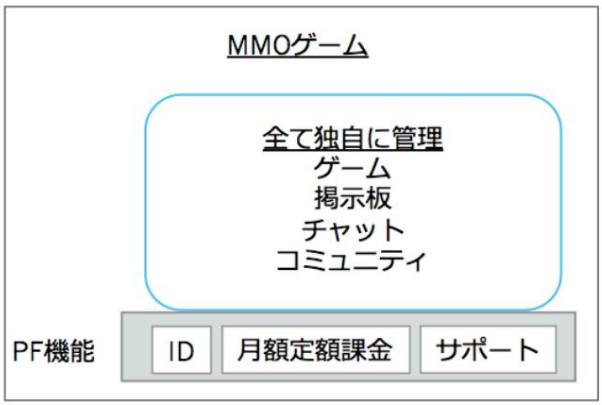
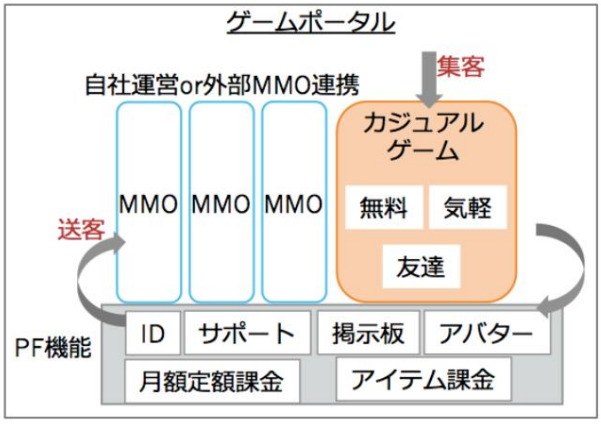
Figure 5-12 Role of MMO game PF



(Source) Nobuko Kawashima and Fumihiko Ikuina, "The Transformation of Japan's Content Industry," Minerva Shobo (2013)

For MMO-type game services, game software development companies also play the role of PF,
A PF is formed by two players, the system developer and the user. The game itself
It is managed by itself, and all communication between users is completed within the game.
It will happen. The functions of PF here are "user ID management" and "fixed monthly billing system".
"maintenance" and "user support", so that users do not leave as much as possible
Our mission is to support the continuation of Software development company itself forms PF
By doing so, there is an advantage that all business can be completed in-house,
If the user leaves the game and moves to another MMO game, it is not possible to track it.
It is a structure with a lit. (Chart 5-12)

Figure 5-13 Role of Game Portal PF



(Source) Nobuko Kawashima and Fumihiko Ikuina, "The Transformation of Japan's Content Industry," Minerva Shobo (2013)

In the process of multiple MMOs popping up, multiple games are put together and multiple
A portal that separates the community functions that allow communication between games

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Sight-type PF (eg GungHo) will appear.

Game portal companies not only provide their own online games, but also

By providing multiple games on PF, including mobile phones, users can choose multiple games.

This has made it possible for users to have consumption behaviors such as switching between a large number of games. Also,

communication between users even outside of game time

It has become possible to strengthen the factors that prevent withdrawal from PF. prepare multiple games

By doing so, it is possible to maintain customers separately from one game life.

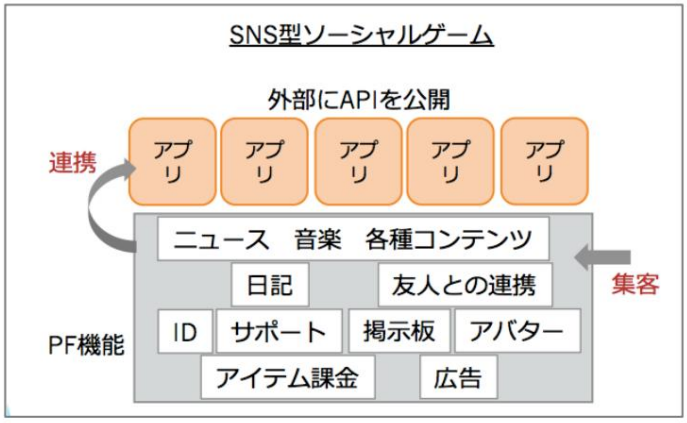
In addition, in community functions that are separate from the game, avatars (self

With the introduction of item billing models and casual games that utilize the alter ego character of

Strengthen revenue model and capture light users by acquiring light users to PF

We are adding functions such as

Figure 5-14 Role of SNS game PF



(Source) Nobuko Kawashima and Fumihiko Ikuina, "The Transformation of Japan's Content Industry," Minerva Shobo (2013)

While game portal PFs have advanced to PFs centering on games, SNSs have

It is characterized by incorporating a game as an extension of the application tool. Captured through SNS

Targeting many users, we published an API for developing games for PF, and many

Game software development companies have entered the market. SNS functions such as user IDs and diaries are not part of the game itself.

By collaborating with

Marketing by users, such as acquiring the user, has been realized. GREE, etc. in-house

also provides games, but Facebook does not develop and operate games and manage and operate PFs.

It is completely separated, and the PF side, the storage player side, and each player specialize in

One of our strengths is our ability to raise capital.

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3. Online distribution and casualization

In the process of spreading game software to general-purpose terminals such as personal computers and mobile phones,
The acquisition of light users is progressing greatly. In addition, both dedicated game terminals and general-purpose terminals
However, light users are an important element in PF, and functional design is intended to include them.
ing. In “The Transforming Japanese Content Industry” (2013), Miho Nojima
Regarding the changes occurring in the business,
“Online”, changes in game play consumption behavior, and accompanying game company marketing
The change in target users in terms of marketing is described as "casualization."

In this section, we will discuss the industry structure accompanying the development of general-purpose terminal game services and the evolution of the communication environment throughout this chapter.

Regarding the change in the structure, referring to Nojima's model, "online distribution" and "casualization"

Consideration will be made from the perspective of

In general, when analyzing the market in terms of the game market, hardware for dedicated game terminals
In many cases, the market is evaluated based on the total sales of software and software.
The game market is said to be shrinking. However, general terminal services in this chapter
The purpose of the game can be understood as "soft" through comparison with this point of view
, we looked at the total transition of the game terminal software market and the general-purpose terminal game service market.
In this case, it can be seen that the industry is expanding its business significantly. (Chart 5-15)

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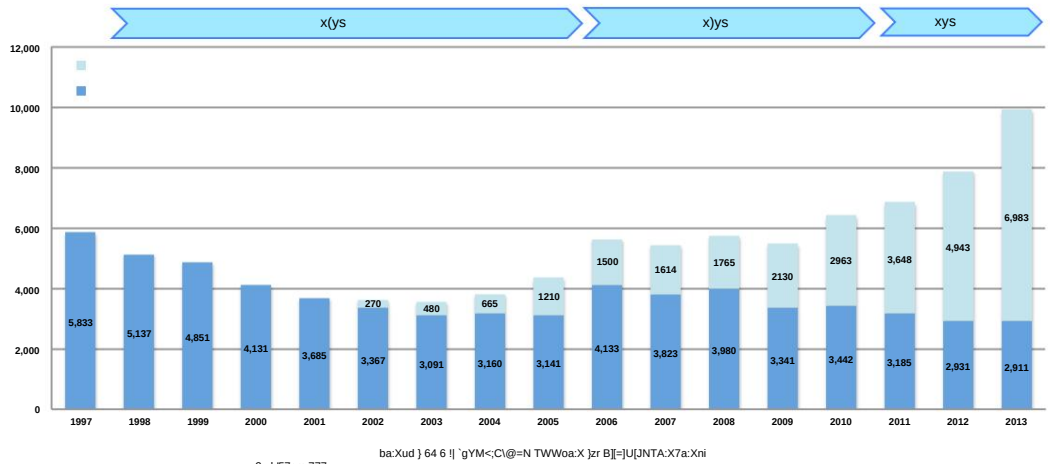
Chart 5-15 Trends showing the expansion of the game market



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(Source) Created by the author based on data from "Game Industry White Paper Decade" and "Famitsu Game White Paper 2014"

Rapid growth from the end of the 6th generation to the 7th generation and beyond.
There is the spread of broadband lines and the development of mobile communication infrastructure. network connection in games
The benefits of connectivity are covered across multiple chapters above, but a notable aspect is online

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This is due to the fact that we were able to create “changes in distribution structure” and “changes in pricing.”

By providing games online, the distribution structure shifts from the conventional product sales business to a service business has changed. Along with this, there will be a big change in the price formation of games. Product sales business is ROM Therefore, it is important to design a supply chain from production to inventory.

Become. On the other hand, we will change to a service model and distribute games as digital content.

As a result, game software transforms into an intangible object. What is happening in industries such as newspapers and movies? In many cases, content on the Internet is free of charge. new house

Yanagawa (2008) and Anderson (2009) also pointed out that game software becomes intangible, and other Internet Similar to content, it will be difficult to put a price on it. While free content is overflowing, it is full of paid content

He says it is because it is difficult to

Since digital content is an intangible good, the marginal cost is significantly lower. marginal cost opposes price If we apply the economics concept of being reflected, the price will be calculated unreasonably low.

Therefore, if the price of digital game software is determined from the demand side,

Difficulty arises in the required measurement. The value of highly entertaining content changes depending on consumer subjectivity Because it is different.

Therefore, players from the 6th generation onwards use the “flat-rate model” and “item charge model”.

After moving away from the product sales business, we will adopt a digital service business.

and by adopting the Free to Play perspective that you can start for free,

In addition to the birth of a new market called in-game, it will change the user experience from game distribution to how to play. (Nojima 2013). The details of the profit model are described in the next chapter.

However, the development of the communication infrastructure is due to the above-mentioned "online distribution(58) ", the game industry It can be considered that it is a major factor that greatly changes the business model of

Figure 5-15 shows that sales of software for dedicated game terminals are rising again in the 7th generation.

This is due to the launch of new terminals such as Wii, Nintendo DS, and PlayStation 3.

However, from this generation onwards, Nintendo has made a major shift in its direction toward dedicated game terminals.

This is the "casualization" of the game. As mentioned in Chapter 4, Nintendo is Nintendo.

Touch panel type operability was adopted for Nintendo DS, and remote control type control was adopted for Wii.

By adopting a roller, the user can operate the game intuitively, making it easier for people unfamiliar with the game.

(58) Nojima refers to "going online," but in this study, taking into account changes in the distribution structure, we chose "going online."

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You can now enjoy the game. The same is true for software.

With the progress of visualizing, “Nintendogs” that raises pets by touch operation and “Brain training” of intelligence quiz
A software that even game beginners can enjoy
For the Wii, we introduced many sports-style games,
Actively acquire light users in the form of getting even untrained people interested in the game
You can see the attitude they are working on.

However, there is a limit to the casualization of dedicated game terminals, and in the first place, people who continue to sit in front of the TV and enjoy games by purchasing a dedicated game device and always carrying it with you to enjoy the game.
There is no specification for dealing with users who are not aware of this. Upfront investment on the user side in terms of hardware
A situation where the high threshold of the “things” business that requires
I was doing Under such circumstances, the spread of mobile terminals and the improvement of their performance have touched conventional game terminals.
This will contribute to the cultivation of the potential casual demographic, which had never been seen before. mobile phone number 7
Since generations, it has become so popular that it has become a daily necessity not only in developed countries but also in developing countries.
Therefore, the user does not need to make any additional investment in the hardware itself. and always carry
Since it is a terminal that is carried, it can be used as a free time in small pieces of daily life, such as gaps in travel time.
The style of playing by crushing is possible. Against this background, especially in Japan,
Services using mobile phone terminals are popular for commuting to work or school.
As a result, companies that produced game software for conventional dedicated terminals also actively entered the market.
As a result, the quality of mobile phone game software has also improved.

In addition, the above-mentioned “online distribution” and “climate change” explained in this section are behind the casualization
There is also a significant relationship between the shift from ant-oriented to network-oriented. online delivery
With the development of Shinka, game services have shifted from client-type to cloud-type,
It greatly supports the casualization of games in terms of technology. With the shift to the cloud, software and games
Since all data is prepared on the server side, users need to prepare a network connection environment.
You can just enjoy the game. This eliminates the need for high-performance terminals,
The point that the side can use the game without trouble and can start immediately at the timing of interest
As a result, the threshold for casual users who have little interest in games has been greatly lowered.

Section 4 Summary

In this chapter, we will compare the business models of dedicated game terminals and general-purpose terminal game services.

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What kind of interactions have there been in business models in the process of technological evolution?

Through the analysis of the layer structure

analysis was performed. Through the analysis in this chapter, we clarified the following.

ÿ The game business is a market that is growing rapidly from the 7th generation to the 8th generation. game

The market is often evaluated on a scale that combines the sales of dedicated terminal hardware and software.

From that perspective, it is often argued that the game market is shrinking.

Through the comparison of terminal services and general-purpose terminal services, it is possible to clarify the purpose of what users want in a game.

It will be possible to grasp it as "futo". From this point of view, the game terminal software market

and general-purpose terminal game service market.

is an expanding industry. (Chart 5-15)

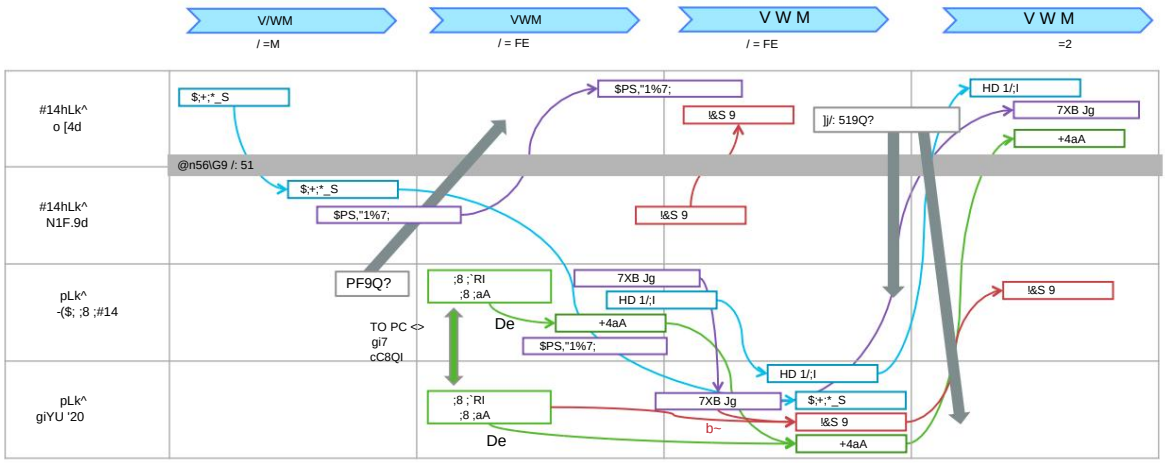
(2) General-purpose terminal game services will continue

"Game content review", "communication", and "openness" designed by

Interaction with game software development companies and game users, such as incorporating many excellent functions

It adopts a business strategy that evolves over time through use. (Chart 5-16)

Figure 5-16 Development of dedicated terminals and general-purpose terminals and arrangement of interactions



Furthermore, the emergence of general-purpose terminal game services brought about a major transformation from the 5th generation to the 6th generation.

This is due to the spread of home broadband lines and the popularization of mobile networks.

It can be inferred that the development of communication technology such as After this change, "online distribution

through “changes in industrial models due to

We also succeeded in acquiring light users for home-only terminals. However, it is always possible to connect to the network.

Mobile terminals, which are capable

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Since we were able to receive it, we will acquire it because the user side is required to make an initial investment for game terminals.

We were able to expand the market to latent light users, which had been difficult to do. As a result,

In particular, it can be considered that general-purpose terminal game services centered on mobile phones are increasing rapidly.

This trend is particularly noticeable in the Japanese market due to its compatibility with the user environment.

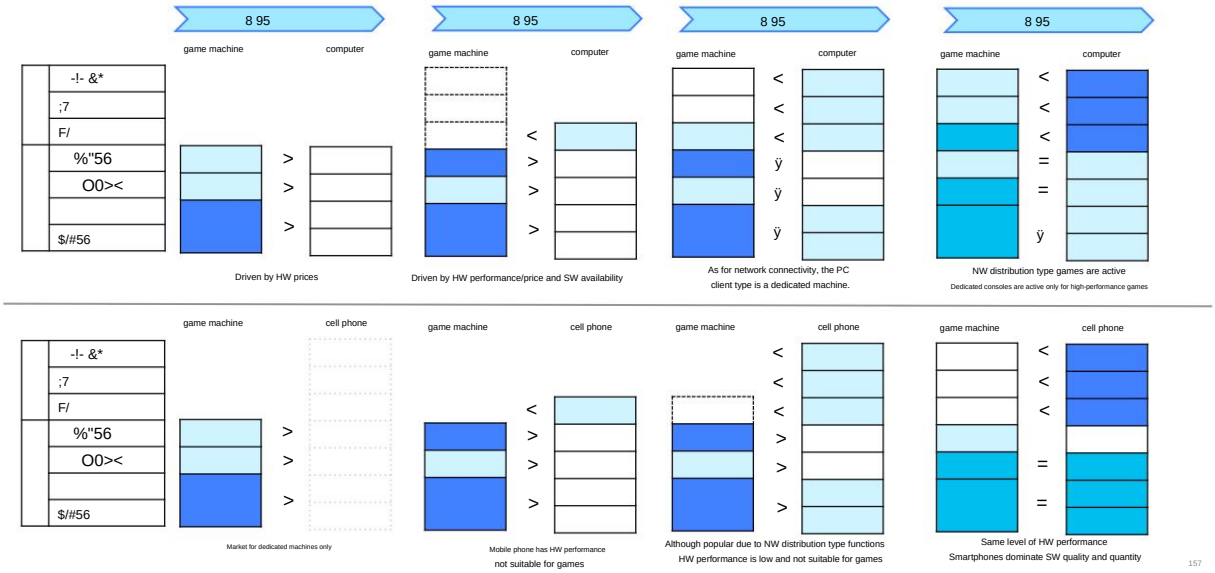
can be considered.

(3) Evolving the business model of dedicated game terminal PF and general-purpose terminal type game service

When compared through the structure, similar to the winning pattern analysis of the dedicated game terminal PF mentioned above,

It can be considered that the physical layer is moving to the upper network layer. (Chart 5-17)

Chart 5-17 Changes in the critical layer of game services for dedicated terminals and general-purpose terminals



By shifting the winning axis from the client to the network, the strength of the PF will be the user

number of IDs. For example, the IDs of stationary terminals and portable terminals are integrated on the dedicated game terminal side.

We are working to strengthen IDs, but there is a large gap between the number of user IDs for general-purpose iOS and Android devices.

It is becoming very difficult to close the gap. In addition, within the general terminal service

But a similar competition is taking place, with games moving from browser games to native games

In the process, the number of IDs has become less attractive, and SNS platforms have been cut out.

ing.

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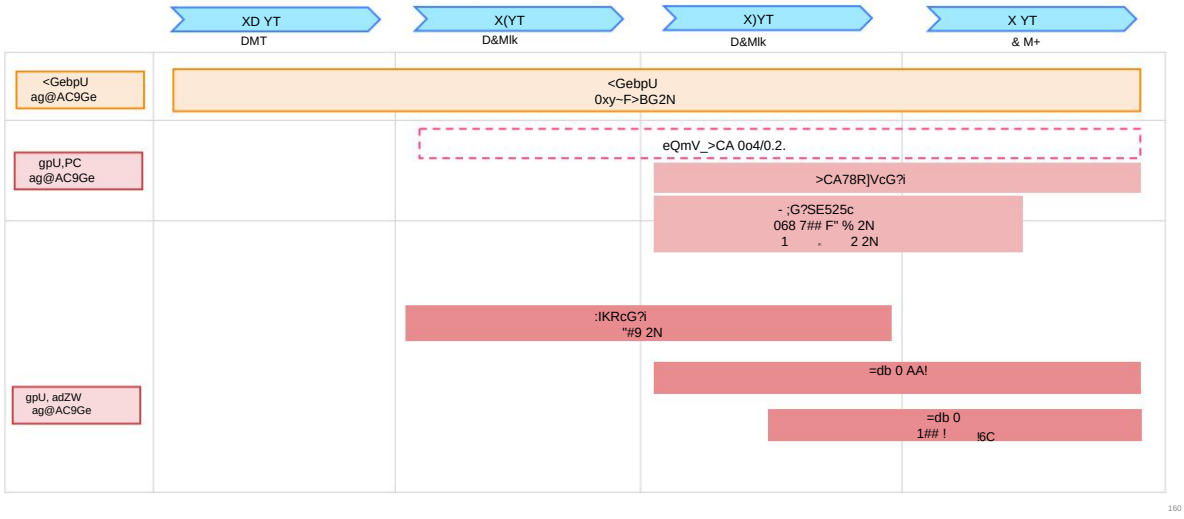
This chapter analyzes why general-purpose terminal game services have achieved rapid growth. So, how does each PF in general-purpose terminal game services develop a revenue model/ecosystem? We will analyze the business model by comparing the layer structure to see if the system was formed.

Section 1 Definition of Markets to be Analyzed

The PFs to be dealt with in this chapter are “game terminal”, “software distribution PF for PC”, “PC & SNS PF for mobile phones", "Japan carrier PF", "Smartphone PF iOS", "Smart Phone PF Android”. Organize each revenue model and what layers as a main service, and in what layer do you get revenue from users? structure comparison. (Chart 6-1)

Figure 6-1 Arrangement of PFs to be analyzed in Chapter 6



Section 2 Business model analysis of each platform

1. Organization and transition of business models for dedicated game terminals

As mentioned in Chapter 3, the business model for dedicated game terminals is investment and development in hardware. Attractive user base by disseminating hardware at strategic prices (deficit level) Encourage complementary players to enter, and the entire PF with software license agreements and royalties It is a structure in which profits are generated by The user (money side) It is an elephant, actively investing to spread hardware, while game development Royalties of companies (complementary side) will be the source of revenue. The profit steps are as follows.

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1. Provide a development environment to software development companies and encourage software development. to software companies if necessary

Supporting investment or developing software by PF itself (serving as a supplementary player)

and

2. Promote hardware to gamers with strategic pricing.

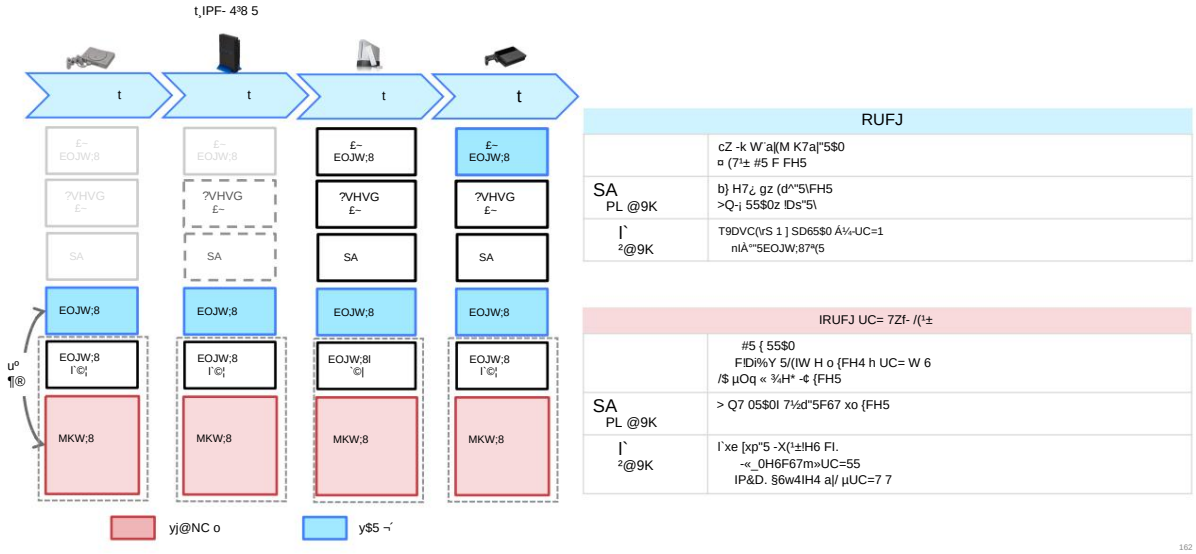
3. A software development company develops software in anticipation of the spread of PF.

4. Users purchase software expecting it to be a good game.

5. Royalties are paid to PF according to software production.

Figure 6-2

Ecosystem of gaming terminals



As shown in Figure 6-2, the dedicated game terminal platform consistently follows the same business model structure.

be. We will actively invest in hardware as our main service, and software royalties will be our main source of income.

as a source of profit. In recent years, by expanding our services to Network Group,

Attempts to create new revenue layers are underway.

The advantage of the PF side in the game terminal ecosystem is mass production under the same standard.

Since the hardware is produced, the cost can be reduced. on the other hand bad

As for Lit, it is necessary to spread hardware to a certain level, so PF was launched.

A large investment is required until the The game-dedicated terminal PF offers terminal prices at a deficit level.

(investment in terms of sales price) to create incentives for popularization. devil

In addition, it is essential to form a supply chain such as inventory management and the development of a retail sales network. on the PF side and

can be said to have a high-risk, high-return structure.

The advantage for the user is that it is possible to obtain high-performance hardware at relatively low cost.

Machine Translated by Google

One point. General playback, such as the DVD player function on PlayStation 2
It is a great incentive for users to be able to obtain it at a low price compared to equipment
often become. On the other hand, if you need to buy hardware to start the game
This is a disadvantage in terms of initial investment. For generations with unprepared terminal environments
However, due to the spread of game environments using general-purpose terminals in recent years, it has become a disadvantage.
It can be said that the situation is becoming a trend.

The advantages for software development companies are the reduction of the risk of piracy through license management and the ease of operation.
It is a work guarantee. For software development companies, copying ROMs and distributing them on the market is a big deal.
It will be a big loss in business. The game terminal PF is managed by the PF side in terms of software provision format.
Therefore, the distribution risk of pirated software can be greatly reduced. Also ROM production
Since it is planned on the PF side, there is a guarantee that it will work reliably, and the support cost is large.
can be greatly reduced. From the point of view of disadvantages and risks, there is a big risk that PF will not spread.
There is a problem that business cannot be expanded. Hardware performance is improving, software development is big
As the scale increases and the development period lengthens, it becomes difficult to determine which PF to provide the software to.
The risks of choice are increasing. In situations where we are dependent on package sales, production and
Since the software development company will also bear the risk of inventory, it is necessary to assess the risk including the selection of the PF.
is required.

2.Organization and transition of business models for general-purpose terminal (PC) game distribution platforms

The business model of PC game distribution PF is to develop a distribution portal and
By preparing the infrastructure for software distribution via online
It is a model that gets a fee. The main player is the US "Steam".
The revenue steps are as follows.
1. Design a portal site and create a distribution infrastructure that is highly convenient for software development companies and users.
create a la. So that the portal site can sell the software digitally,
Carry out sales activities.
2. Purchasing via the network is possible after arranging the amount and lineup of content to be distributed.
We will appeal the convenience of being able to use it to acquire users.
3. Software development companies are attracted by the large number of users of PF and the convenience of sales.
increase the number of

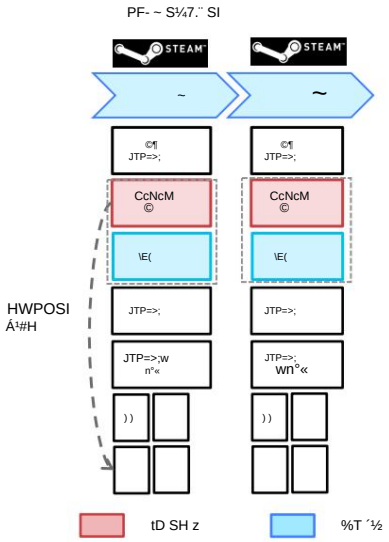
Machine Translated by Google

4. User purchases software

5. Depending on the settlement amount, the amount after deducting the sales commission will be paid to the software development company. PF side

Revenue will be commission income.

Chart 6-3 PC game distribution
PF ecosystem



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As shown in Figure 6-3, the game distribution platform has the same business model structure for the two generations.

be. Proactively invest in the development of content distribution PF infrastructure, and make payments through user IDs

The revenue source is sales commissions.

The merit of the PF side is that it receives licenses from a certain number of software companies and develops a content line-up.

If we can acquire the number of users by arranging the top

It is to realize a model in which fees continue to be charged. On the other hand, the amount of content (complementary

number of years) and the number of users will be the strength of PF, so software companies will stop supplying

If we withdraw from the PC software market, there is a risk that PF will not be established.

I have a risk.

The advantage for users is that unlike package sales, they do not have to go out of their way to retail stores.

It is possible to purchase as much as possible. In addition, limited-time discounts and campaigns are software

It is often provided by companies and has the advantage of being cheaper than retail stores.

There are many lit. In addition, since it is managed by ID and the purchase history remains, you can change the hardware

A smooth transition is realized, such as being able to download again when you do. Disadvantages and

Therefore, users are required to have a certain amount of IT literacy. hardware and software

Since the software is not managed by license, the operation of the software depends on the user's environment.

Machine Translated by Google

Dependent. It is necessary for the user side to prepare a sufficient environment in terms of hardware and network.
Desired.

For software companies, it is possible to sell without going through distribution, so as mentioned above, flexible sales
The point is that it is possible to set sales systems and prices. Digital delivery eliminates inventory risk, so users
Real-time campaign development can be performed according to the situation. package type
It is important to be able to promote user acquisition such as free trial, which is difficult to achieve in business.
It's a big advantage. These advantages also become disadvantages, and other software companies do the same.
Because of the aggressive promotion under the conditions of
It becomes easy to get tired. In addition, since authentication is managed with user IDs, the conventional PC game market
It is an advantage that it can prevent piracy by copying, which used to be a big risk.
be.

3. Organization and transition of SNS business models

The business model of game PF that utilizes SNS is to launch SNS, acquire users, and develop SNS.
By providing games as an additional service, we will raise the advertising value of SNS and further improve the item section.
The structure is to add revenue models such as gold. As a major player in the United States
Examples include "Facebook" and "mixi", "GREE", and "Mobage (DeNA)" in Japan. A user
Acquire users by actively investing in promotions and other means to acquire users,
advertising income by advertising companies and content sales by software development companies
Fees are revenue. The revenue steps are as follows.

1. Provide SNS for free and acquire users who want to use communication tools

2. Advertisement companies place advertisements based on the attractiveness of the large number of users.

3. A game software development company that makes the SNS API open and attracts a large number of users
(often free of charge)

4. User activity rate increases through the use of communication tools and games

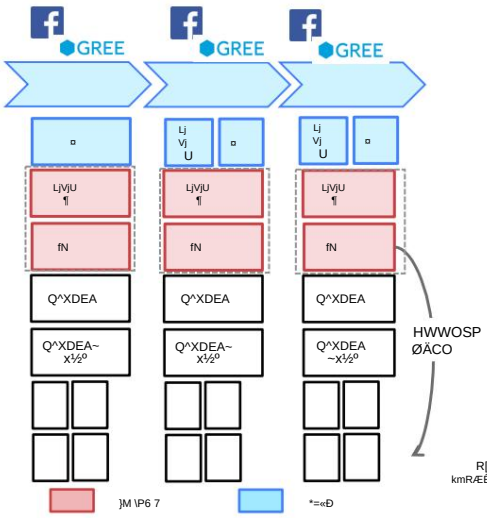
5. The large number of active users will be a strength, and advertising revenue will increase (Revenue 1)

6. Adding avatars and item content as additional functions for users to enjoy the game more
Sell (item charge)

7. Depending on the settlement amount, the amount after deducting the sales commission will be paid to the software development company. PF is hand
You can earn fee income (Revenue 2)

Machine Translated by Google

Chart 6-4 SNS ecosystem



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SNS has a business model structure as shown in Figure 6-4. At the beginning of the service,
Previously, advertising revenue was only revenue, but by strengthening content sales centered on games,
We are now able to generate revenue from sales commissions, creating two revenue streams.

There is a characteristic where it is. For the maintenance of the content distribution PF infrastructure and the acquisition of users (IDs)
revenue from content sales (item charges) and advertising revenue
and Players and services are different between Japan and overseas, and PCs overseas
Facebook itself, which is a PF, does not offer games, and Zynga and others
Complementary players to provide the game. In Japan, it started mainly for mobile phones,
There is a difference that SNS itself is also a game provider and also functions as a PF

The advantage of the PF side in the SNS business model is that it creates two revenue axes.
be. Activate SNS users by providing game services as added value
In addition to increasing advertising value, it is possible to add a new revenue axis called content charging.
Wear. The large number of users and the active user rate are great strengths as a PF, and GREE and
DeNA has succeeded in obtaining a very high sales commission (royalty) of 40%,

It can be seen that they have high bargaining power with game software development companies (complementary players). On the one hand, the user
There is also the risk that the PF will rapidly weaken as other players and supplementary players leave.
For example, mixi had an overwhelming market share in Japan when the service started, but Facebook
With the spread of , the number of users has changed significantly and PF has weakened. For GREE and DeNA, Chapter 5
As mentioned in , the development trend has changed from browser games to native apps.
It is happening that SNS is being hollowed out as PF. Complementary play with the user once

Machine Translated by Google

It will be difficult for PFs who have lost their players to recover, and they will be required to switch to other businesses.

The advantage for users is that most of the services can be used for free. SNS service
Since not only services but also most games can be enjoyed for free, both terminals and software
There is no initial investment in
The threshold for light users is very low. In addition, cloud-based services
Since it is designed with , if only the user ID is managed, the user can be transferred between terminals.
Another advantage is that it is very easy to Disadvantages
The impact of this has become a social problem. Game services on SNS use item billing
There are many things, and many of them are designed to arouse the gambling spirit. As a result, game-dedicated terminals
It also addresses the social problem of young people charging unlimited bills, which did not occur in
are connected, and management, including guardians, is required. See Section 3 for details on this issue.
state.

Advantages for game software development companies (complementary players) are obtained through SNS.
In addition, it is possible to utilize user boards based on tens of millions to hundreds of millions of IDs. network
Since it is linked with the network, promotions and events that match real-time user trends
By enabling events such as events, users can be revitalized, and the unit price can be improved by charging users.
can be raised. There are a large number of user boards, and software development costs are similar to those of game terminals.
Relatively low by comparison, resulting in a large revenue return if the content becomes popular
The sound is a big attraction. On the other hand, it is premised on item billing, and the game
The design of the game will be similar, and there will be a situation where similar games are flooded and it is difficult to differentiate them.
is growing.

4. Organization and transition of business models of mobile carriers

The business model of mobile carriers is to develop distribution portals for mobile phone subscribers,
By preparing the infrastructure for content distribution via online on the user side, mobile communication networks
Promoting network usage and earning usage fees, as well as sales commissions for software and content
It is a model that In this paper, we focus only on the Japanese market, and as a player
"NTT Docomo", "KDDI (au)" and "Softbank" can be mentioned. Earning steps are:
become.

1. Acquire users by promoting mobile phone services

Machine Translated by Google

2. Carriers can earn communication costs from users (Revenue 1)

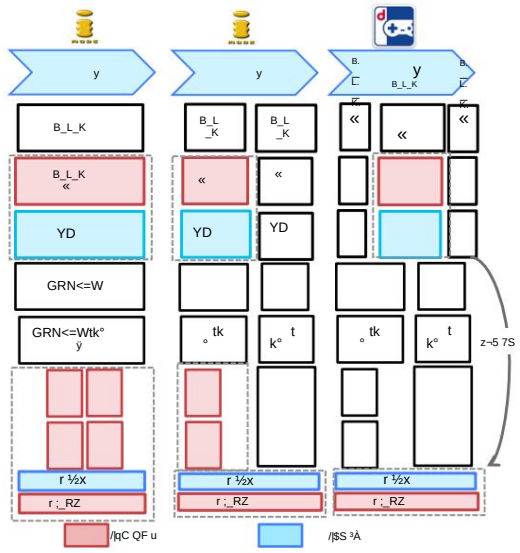
3. Designing a portal that appeals to the increasing penetration rate and the large number of users, and becoming a content provider to provide content to

4. Users use various contents such as music, games, and videos, and pay for them.

5. Depending on the settlement amount, the amount after deducting the sales commission will be paid to the content provider. PF can earn commission income (income 2)

6. Since content is delivered via communication networks, communication transactions will increase, Communications revenue will also improve (increase in revenue 1)

Chart 6-5 Mobile carrier ecosystem



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Mobile carriers have a business model structure as shown in Chart 6-5. to mobile carrier

In this model, it is essential to explain the structure of the communication infrastructure.

It sets the layers of the communication infrastructure. At the beginning of the launch of mobile carrier services, communication Telecommunications contracts (mainly telephone charges) were the investment and income due to the development of the infrastructure, but the 6th generation

Since the 1990s, NTT DoCoMo's i-mode has led to revenue and content from telecommunications contracts (data communications). We were able to create two profit structures, namely revenue from sales of products. After the end of the 7th generation, Triggered by Apple's launch of the iPhone, separation from the structure in which the carrier managed everything And with the entry of Android in the 8th generation, only the hardware layer

In addition, the content distribution PF itself becomes a competitive situation, so the content distribution PF of the carrier is becoming severely weakened.

The advantage of being a PF on the mobile carrier side is the base of the number of mobile phone users, whose strength is the high penetration rate.

Machine Translated by Google

In addition to being able to negotiate favorable terms with content companies, the revitalization of content

The point is that it is possible to improve the unit price per user for communication expenses, which is the revenue of the phone. However, this advantage

In the eighth generation, on the contrary, it is falling into a disadvantage. If hardware such as Apple or Google

or OS-based PFs have entered the market, and with the support of users, PFs formed on a global scale and

competition among domestic career portal PFs. The user bases of the global market and the Japanese market are very different

As a result, it becomes difficult to gain support from both competitive users and supplementary players, and inevitably weakens

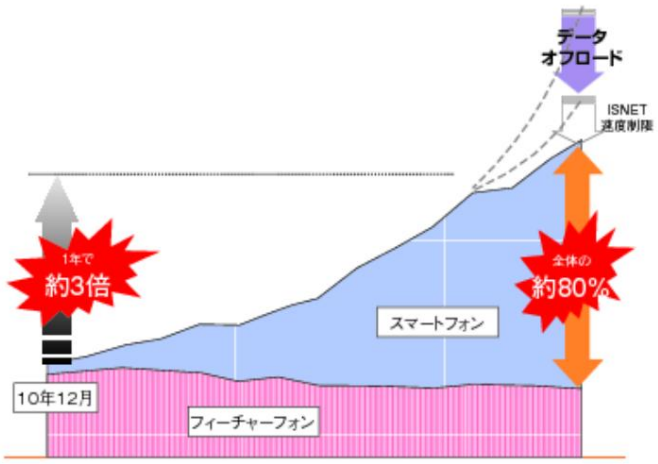
It will end up. Furthermore, based on a plan that fixed data communication costs in the 7th generation, users

, and shared communication infrastructure with users of Apple and Google services.

Because the communication cost is fixed, the more content, the higher the cost, and the more the content increases.

We are falling into a vicious cycle of putting pressure on the credit infrastructure. (Chart 6-6)

Chart 6-6 Increase in data communication volume due to spread of smartphones



(Source) Excerpt from the 2012 White Paper on Information and Communications)

The advantage for users is that they can use the convenience of carrying a mobile terminal to

It was in the point that you can enjoy the content and the payment method integrated with the payment of the mobile phone bill. Yu

When users purchase content, they only need to enter the password of the mobile carrier that they have set.

It was a system in which fees were collected together with fees. In Japan, where the credit card usage rate is low,

The convenience of this payment method was great, and many payments were made for music content such as ringtones. on the other hand

However, the specifications of mobile terminals differ depending on the manufacturer, so if you change the terminal, the standard will change, and the service will be affected.

Especially for mobile phones, where terminals are frequently changed periodically, such as when the content becomes unusable,

The demerit was also big in terms of the handover of the components. In the 8th generation, with the advent of iOS and Android,

Once the content is controlled by the company that provides the OS, these migration problems are solved.

Machine Translated by Google

This led to a significant reduction in the influence of carriers on terminals.

The most attractive point of mobile carrier PF for content providers is that it targets a huge number of users.

The reason was that it was possible to provide its own content as a hotspot. Payment methods are also used by mobile carriers.

Since it was designed with the customer in mind, it became possible to make payments without burdening the user, and various contents such as music, games, and videos were available.

Companies that provide products have entered the market, and many venture companies such as Dwango have achieved significant growth. 6th generation

During the heyday of i-mode in the 1970s and 7th generation, the influence of mobile carriers was strong, and negotiations, including standards, were weak.

Although it was a situation, Apple and Google opened the development environment and made it possible to directly access the distribution PF

As a result, content providers are shifting to services for smartphones.

5. Organization and Transition of Apple iOS Business Model

Apple's iOS business model is to create attractive hardware that is smart to users.

Sales of smart devices (smartphones/tablets) are the foundation. hard

In order to make wearables a more attractive product, we will operate our own content distribution PF while entering the

By making the development environment open, we can activate the ecosystem and develop software that runs on hardware.

We are working to collect more content. Revenue source is hardware, profit

High-performance hardware is the source of earnings. Apple's operating margin remains around 35%.

continue to hold, with other computer makers such as HP and Dell at around 5% to 10%

Considering that, as a hardware company, we managed to create an amazing profit margin.

successful. The revenue steps are as follows.

1. Acquiring users by developing and selling attractive electronic devices (Profit 1)

2. Attracting large number of users and openness of PF, content development for content companies

and offer

3. Users make purchases based on the appeal of content

4. Depending on the settlement amount, the amount after deducting the sales commission will be paid to the content provider. PF

can earn commission income (income 2)

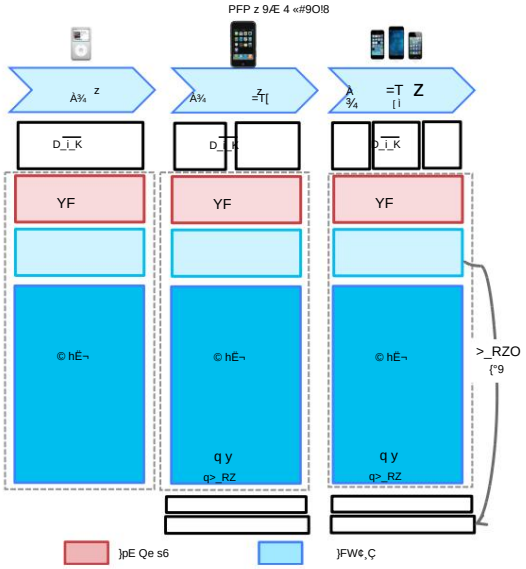
5. Content is managed on the PF side after purchase, and compatibility is guaranteed for multiple generations

Therefore, you will continue to be locked in to iOS even when you replace the product. terminal continuously

can be purchased. (Continuation of profit 1)

Machine Translated by Google

Chart
6-7 Apple's iOS ecosystem



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Apple's iOS has a business model structure as shown in Figure 6-7. Apple

Utilizing the hardware and OS know-how cultivated in the development of computers in the iPod, furthermore iTunes

After creating a music distribution PF called iTunes PF, an application distribution based on

We have succeeded in developing it into PF. Revenues are consistently hardware-centric,

Although we take a 30% fee for billing in content distribution PF, the breakdown is

The profit margin is approx.

It is around 10%, and considering the cost of managing and operating a free application,

It can be inferred that earnings from content distribution PF are not that large. (59)

Our strength as a PF in this business model is to leverage our hardware user base,

The point is that it is developing services integrated with hardware, OS, and content (software).

The more content a user buys, the more incentive they get locked into iOS.

Since the dynamics work, users will choose iOS even when they purchase their next device, leading to a generational shift.

It becomes difficult to wear.

Such integration has many advantages for users. First, mobile devices are new every year.

products are appearing, and Apple is also transitioning to the iPhone launch, and new products are being released every year, but terminal data

can be easily backed up, making it easy to migrate to new hardware.

be. In terms of payments, all payments are centrally managed on the PF side, so it is similar to the mobile carrier model.

(59) My Navi "How much money has Apple made from operating the App Store?" 2010.7.11

Machine Translated by Google

Similarly, there is the convenience of being able to pay for content with an ID and password. Also,
It is convenient in terms of content, and multiple content such as music and books are provided, and the terminal
In addition to being able to enjoy multiple contents on a single device, PF
, the user can use the content with peace of mind (60) . Also, Apple
Since the OS is standardized even in the tablet type terminals developed and sold by the company, other
Not only can you use the same content as on your device, but you can share applications and
It also has a function called "Family Share" that allows you to share content.
While there are these advantages, content purchased for iOS can be transferred to other devices
Therefore, when migrating to a device other than an iOS device, you have no choice but to give up all content.
Check-ins are also a disadvantage for users.

For content companies, it is important to provide content to PFs, where hardware is spreading all over the world.
In addition to being able to provide content, the infrastructure for content distribution and settlement is also left to the PF.
The fact that it can be done is a big advantage. The development environment is also open,
Regardless of whether you are a company or an individual, just by participating in the annual program of 7,800 yen (61) , you can start developing applications.
Development becomes possible, and the application can be distributed in the distribution PF. game
Considering that a dedicated terminal costs several million yen, it is extremely inexpensive and highly open.
You can say that. Also, since iOS integrates the hardware and the OS, application systems
It is also highly convenient for the development side that the design specifications of the application are fixed. 7th generation iOS devices
Since then, it has evolved into a mobile phone terminal, and since then, a network type that uses a mobile network
service is possible, and compatibility with network-type billing systems such as item billing
The market is also high, and many game software development companies, including players on dedicated game terminals, are entering the market.
I'm listening. On the other hand, many content companies will enter the market,
The number of applications exceeds 1.2 million, and marketing including raising user awareness
Training costs are increasing, and it is becoming difficult to differentiate between complementary players.

Apple's strength lies in its attractive hardware cultivated by its brand power, and its innovative hardware.
Users are expected to continue developing hardware. attract users
It can be considered that the difficulty of continuing is a risk as a business.

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(60) No viruses or malware as of 2014 (61) iOS Developer
program As of 2014

Machine Translated by Google

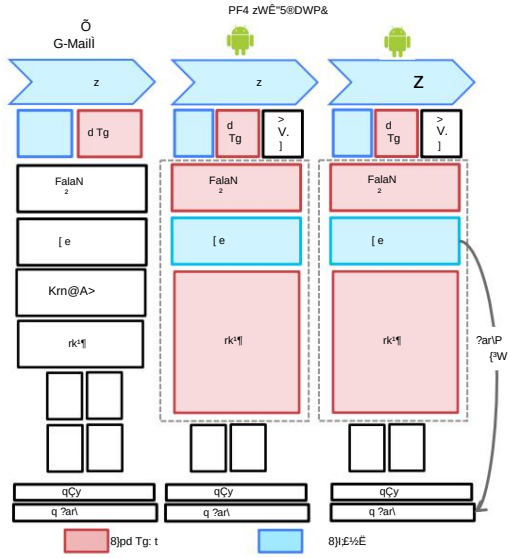
6. Organization and Transition of Google Android's Business Model

Google's business model is to provide attractive web services such as search engines for free.
By providing the
It is a model to get Android follows the same model, and the hardware of mobile devices
OS is provided free of charge to software development companies, and the platform is expanded by increasing the number of compatible models.
Expand to get a large advertising revenue base. From there, go to Google Search, Gmail, or YouTube.
It is a structure that leads to the company's own service and increases advertising revenue. target the same users
In contrast to Apple's hardware-based revenue model,
While involving hardware development companies, content providers and multiple complementary players,
PF is characterized by its consistent focus on advertising revenue. Earning steps are:
become.

1. Provide web services such as search services and webmail to users free of charge;
to earn
2. Advertisement companies publish advertisements based on the appeal of the large number of users who use Google services
(Revenue 1)
3. While making a large investment in OS development, the OS itself is provided free of charge to hardware development companies.
By doing so, we will develop devices equipped with Android on the market.
4. User purchases hardware
5. Open content development environment for Android
6. Content development that appeals to the number of users using Google's web services and Android devices
Companies enter and provide content
7. User purchases content (Google also prepares distribution PF, but unlike iOS, distribution is free).
cloth is also possible)
8. If you use Google's distribution PF, the amount after deducting the sales commission will be credited according to the settlement amount.
paid to the content provider. PF can earn commission income (Revenue 2)
9. Through content usage, Android users become active users of Google services.
As a result, the ad unit price will increase by attracting those users (enhancement of revenue 1)

Machine Translated by Google

Chart
6-8 Google's Android ecosystem



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Google's Android has a business model structure as shown in Figure 6-8. revenue is one
Ads are the main focus throughout, and Google Play, which is a content distribution PF, has an additional payment fee.
Although it is a revenue axis, on Android it is possible to distribute applications without going through Google Play.
Cloth is possible, so we can infer that it's even less profitable than Apple.

The strength of Android as a PF is its user base based on Google's web services.
be. Google's user base with hundreds of millions of users using search engines, Google Maps, etc.
has great bargaining power with complementary players.

The advantages for users are the convenience of content purchase and portability, similar to Apple's iOS.
This is due to the breadth of content that takes advantage of the convenience of mobile phones. On the one hand, it is big with iOS.
The reason is the low integration that occurs because multiple manufacturers develop hardware,
Malicious content is mixed because it is a software distribution that does not depend on the content distribution PF.
there is a risk of It doesn't work or works poorly compared to the integration of iOS.
It is necessary to identify content that causes problems and identify malicious content.
A certain level of literacy is required on the user side.

The merit in the complement player is big. First, for content companies, the world
Provides content to a large number of users, can use Google's system for payment, and has a development environment
It has the same advantages as iOS, such as being open. Additionally, unlike iOS, Google's distribution
Since it is possible to distribute without using a communication PF, it is also possible to distribute your own software.
Noh. In this case, the settlement fee of 30% is no longer necessary. For hardware development companies

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is a program that originally requires a large investment in the development of an OS, which can be used free of charge.
The advantage of being able to enter the market is enormous, and many companies have successfully entered the market. while multiple ha
With the proliferation of terminals by hardware manufacturers and the emergence of multiple standards, software
This is not the case with dedicated game devices and iOS, where the development of content and content is uniform and cannot be designed.
However, there are problems unique to general-purpose terminals.

The greatest strength of Google's Android PF is that the Android business itself is an investment business,
The aim is to strengthen the earnings base of advertising. Game terminals are soft
Other companies have a mission to increase profitability in one of the PFs, such as loyalty for software, Apple for hardware, and SNS
for web portals.
You can proceed with your business by positioning Android as an investment business. Take profitability as PF
It can be said that the business model in which is not the most important issue is a major strength as a PF.

Section 3 Analysis of Item Charges, a Highly Profitable Business Model

1. Common points of players with high profit margins in general-purpose terminal game services

As mentioned in Chapter 3, the game terminal business model is in the red for hardware.
However, it is a model in which profits are generated from software royalties. Therefore, Sony
In the year following the release of new hardware, the company was in the red, and in a few years it exceeded the profit line.
The profit structure also fluctuates between -20% and 20% every year. Nintendo on the other hand
has excellent hardware manufacturing and cost control, and although it has fallen into the red in recent years,
In 2020, operating profit will not be negative even after the hardware launch, and the operating profit margin will continue to grow.
We have been earning a high profit making up 20% to 30% a year. (Chart 3-3) The difference between the two companies is hardware
There is also a difference in manufacturing management, but it can be considered that the difference in aggressiveness in software development is large. appointed
Tendo is a self-developed hit tight such as "Mario", "The Legend of Zelda", "Pocket Monsters"
has created a large number of games, and by turning it into a series, it will continue to contribute to PF as a popular piece of software.
making a donation. Although software requires the distribution of ROMs, it is an intangible asset, so when it becomes a hit,
profit margins are very high. There is a key to software to raise high profit margins in the game business
can be considered.

The profit margin of a software development company that sells game software for dedicated game terminals is
Major companies such as Wear Enix, Capcom, and Konami Digital Entertainment
In terms of the operating profit margin of the game business for dedicated game terminals, dedicated game terminals are performing well.

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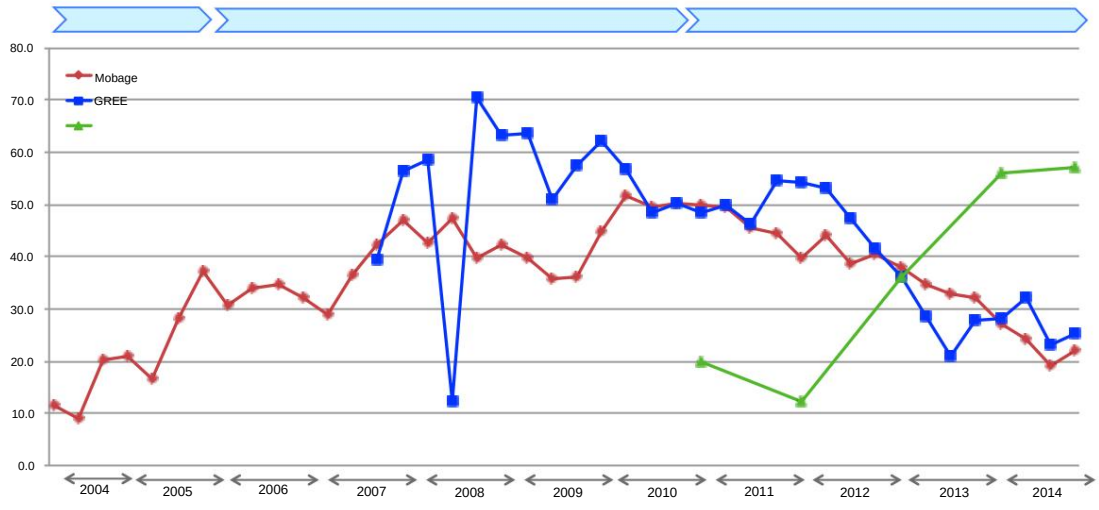
In the 5th to 6th generations, which were the first generation, the profit margin was around 20%, but in the 7th generation,
Since then, it has gradually declined, and as of 2014, the profit margin has fallen to around 3% to 10%. in the background
Overseas software development companies have become stronger due to the above-mentioned soaring development costs and the shift of the market overseas.
It can be inferred that there is a relative weakening due to this.

On the other hand, in recent years, companies and segments that generate high profits have emerged among companies that develop game software.
starting. That is the game business for mobile phones and smartphones. 7th generation and beyond
In addition, although a fast-growing segment, GREE remained consistent during its 2008-2009 heyday.
over 50%, and during its peak period, it not only generated an astonishing operating profit of about 70%.
In addition, even competitor DeNA has consistently maintained over 30% from 2007 to 2013.
It can be seen that it is a business with high profit margins. Even in the 8th generation, Ganhoen
Due to the blockbuster “Puzzle & Dragons”, Tataiment achieved an operating profit of 58% in fiscal 2013.
The company has built up a profit margin and has grown both sales and operating income by about 100 times in two years.
, new players are emerging to create phenomenal growth and profits. to gung ho
As for the business centered on software development without PF, smartphones
We can see the high profitability of the software business for the Japanese market. (Chart 6-9)

Chart 6-9 GREE, Mobage, and GungHo Profitability Trends



(Source) Created by the author based on each company's IR information Quarterly for GREE and Mobage, and annually for GungHo

As described above, both the PF and complementary players have
After that, we can see that there is a big difference in the profit rate. Here, after the 7th generation
When considering the business models of high-profit players in the market, one common point emerges.
Become. That is the mechanism of “item billing”.

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2. What is item billing?

“Item charge” is mainly introduced in online games.

It is a billing system that sells items (additional content) that can be used. As of 2014, smart
Most of the games on the phone are provided for free. these
games can be used for free as long as you enjoy the basic game, but the game
Create an incentive for users to expand functions by purchasing items within
The provider can generate revenue by letting users charge and purchase items.
It has become a profit model that Item types include the following.

·character

Sell characters for use in the game. Depending on the type of character,
Characters with high rarity are ranked by rarity such as A and Super Rare.
as difficult to obtain

•Avatar, equipment item

Fashion items that change the character's appearance, such as clothes and hairstyles. Character
Like tar, they are often ranked by rarity. Blog services and MMO
It is often used in services that communicate between users, such as

•Convenience improvement, waiting time shortening item

Experience points and in-game currency for leveling up to advance the game efficiently
Items that improve the rate", limit the user's game time such as stamina to gameplay
Add elements and sell "items that shorten the waiting time" of the game. smartphone
Used in RPG (role-playing games) and other types of games that make use of the gap time.
often be beaten

•Items that extend the limit

Including the connection with friends in the game as an element of the game, the number of people who can register as friends
Limit or limit the number of possessions of a particular item. remove these restrictions
sell items for Smartphone RPG (role-playing game), etc.
Often used in games that make use of gap time

Users can obtain items by using the above billing system.

However, in the acquisition method, the mechanism of "purchase" and "gacha" is used. "Buy" is an offer

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ID can be purchased electronically by the user paying a specified amount on the
Cha” is an electronic lottery format, and users can purchase the right to draw a lottery by paying a fee.
It is a mechanism that can Virtual currency and virtual items for drawing gacha are game
It is often possible to obtain these by achieving certain conditions within the system, but these are sold
By doing so, the incentive to charge the user will work. “Convenience Improvement Items”
It is often sold in an included format, and about "avatars/equipment items" and "characters"
are often sold in gacha format.

3. Create hunger for users

In-game items are not only free to acquire, but most game functions are disabled.
can be done for a fee. In other words, you can enjoy the game itself without paying. actual
Approximately 90% of users who use in-game items to purchase games play games without making purchases.
It is a structure in which 10% of users support the game service. (62) But
On the other hand, companies that have adopted an item-based revenue model tend to prefer package-type or monthly flat-rate revenue models.
It is earning higher profits than companies adopting the profit model, and the Japan Online Game Association's
According to a survey, the average unit price per user in the flat-rate revenue model is 1,135 yen per month.
On the other hand, in the case of the item charge revenue model, the monthly fee will increase to ¥5,243.

Why is it so enthusiastic for some users that it is a game that can be enjoyed for free?
can you make money Behind this is the concept of “Strike” for players who enjoy games.
Psychological characteristics such as promoting billing by giving a well-balanced sense of “lessness” and “hunger”
A system that makes use of it has been created.

First of all, "machine loss" and "time limit" are factors that cause hunger. item charge
In the game we adopted, we progressed through the dungeons and events halfway through the game,
If you cannot clear the final boss, you will be returned to the starting point and the process will be reset.
There are many specifications. It is the user who resets everything even though it can be cleared in one step
For us, it is an opportunity loss for the process we have built up, and we cannot charge at this timing.
By preparing a mechanism that the event can be advanced advantageously by
Work incentives to make Thea pay. It was also the heyday of social games.

(62) Atsuo Nakayama “Why are only social games profitable?” (2012) PHP Institute

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As of 2012, the gacha system does not offer a complete set of items or characters of a particular type.
By adopting a system in which there are additional rewards (computer gacha), users' gambling
Many games are designed to increase profitability by further fueling the mind with mechanical loss.
was adopted. Furthermore, in addition to mechanical loss design, we also
If you don't clear the event, you can't get exclusive rewards", "Until today, certain items are 50% off
By incorporating the element of "time limit" such as
Realization of a mechanism that incites and some users charge to satisfy this hunger
will do.

As 90% of users enjoy the game for free, even free users can
The goal of the game is set at a level that can be achieved over the course of a year. death
However, by making a payment and purchasing an item, other users will be able to spend weeks or months on the hardware.
It will be possible to clear the dollar in a few days. Atsuo Nakayama, a former DeNA employee, wrote in his book,
Since the game itself is basically free, thousands or tens of thousands of users enter the game. mutual affection
In particular, billing is a ladder, and I look down on others who are struggling to reach their goals.
Something like a forbidden fruit that warps to. There are discounts and time limits
Because of this, I use it unintentionally.", "Charged items are a kind of premium seat, usually 3-4
You can make Amazon courier deliveries that take days to arrive on the same day, and you can use the travel expenses saved by LLC for business purposes.
Used for lounging in class or such a premium (compared to normal)
Users who can feel the value of the game support the revenue of the game."
Create a system that charges some users, and enjoy free users to support paying users
It can be considered that the design of the balance of the game is important.

In addition, regarding the billing method called "comp gacha", the Consumer Affairs Agency violates the Act against Premiums and Misleading Representations.
In light of the indication that there is a possibility that the
We are also faced with the problem of how to balance this with corporate soundness.

4. Data-driven operation

In order for users to enjoy the game continuously and to make them pay as much as possible,
It is important to design games based on data analysis that utilizes network connectivity. Traditional
In the game terminal business, game software is sold out in packages, so users purchase
Advance marketing was important until the game was played, but in the case of a game that charges items

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For example, a “data-driven” service that uses the data after downloading the game
operation is important. Data-driven marketing and management centered on data
In the item-type billing game, the user's game activity history is used to
It refers to the activity of updating game programs in service in real time.

A characteristic of data-driven management is its real-time nature. huge amount of user data
are acquired and analyzed, and the results are reflected in the game program in real time. for example,
Negative situations such as user withdrawal and declining active rate
In the event of a campaign, items that improve user convenience will be given, or new characters will be introduced.
Activities such as throwing in a ctor. Therefore, how the user's activity changes
It is important to analyze whether there are
Service-based metrics are used as evaluations. The main indicators are as follows.

•Active User (AU) Number of users currently playing the game

•Monthly Active User (MAU) Monthly number of AUs. Externally to represent the scale of the game
often published in

•Daily Active User (DAU) The number of daily AUs. It is used as an internal index of the development company. game
It is used when discovering problems such as many withdrawals on the next day after starting.

•Pay User (PU) Billing rate. Paid users are said to be around 10%, and how can this ratio be improved?
The key is to let go. In particular, how to get new unpaid users to make the first payment?
This activity is important to have the value of paying to play

•Average Revenue Per Pay User (ARPPU)
index of Multiplying PU by ARPPU gives monthly sales. Improving ARPPU is profitable
This leads to the above, but if it is too high, there is a risk that the number of users will be limited and the billing rate will drop.
be.

Data-driven operations have changed the way games are developed. game on game console
In the development of software, user satisfaction surveys based on sales performance data and questionnaire surveys, etc.
Based on the tacit understanding that the evaluation is the index, and the idea and originality of the developer are important, the intuition of the development site and
Experience was valued above all else. In the data-driven type, decisions are made based on “user activity”.
Therefore, the decision-making power of development changes is shifted to the user side. Data in development members
In addition to personnel changes such as the addition of analysts, speed is a priority, so
Even if it is a prototype, first of all, the service will be released to the world, and in the process of operation, it will be suitable for users.

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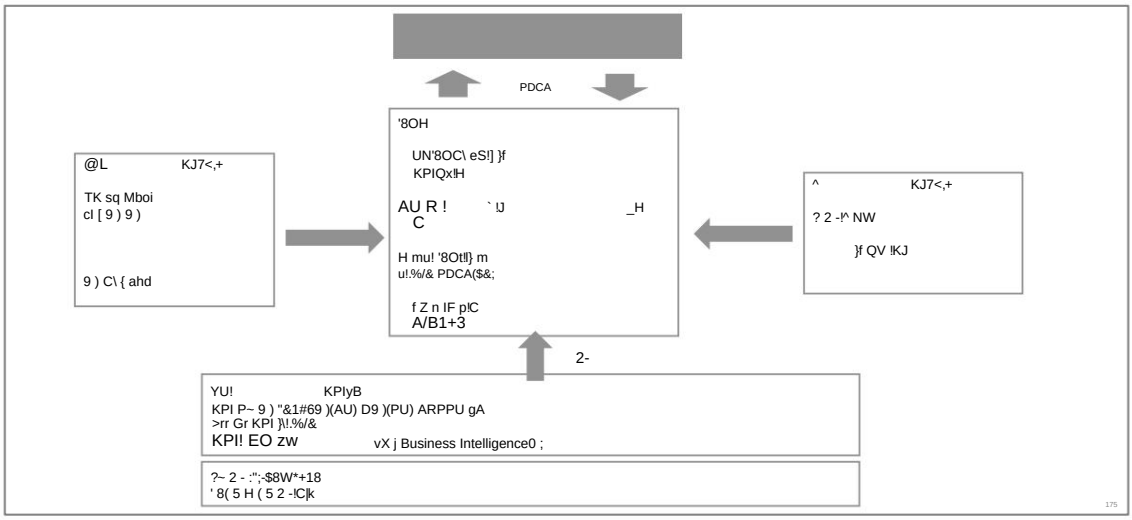
It has changed to an agile development method in which the program is modified as needed. (Chart 6-10)

Chart 6-10 Changes in game development style



(Source) Nobuko Kawashima and Fumihiko Ikuina, “Changing Japanese Content Industry,” Minerva Shobo (2013) Chapter 6 Miho Nojima

As described above, we focus on each user and follow the trends until they use the service for a fee.

Activities that make use of various individual data, and by operating multiple games,

Composite data utilization know-how such as grasping a non-existent social graph and building a brand

Management that accumulates how is now required, and conventional game software development companies

A shift to a service-operated business model will be required.

5.Consideration of tariff design

I mentioned the

method of operating the service by charging for items, but why is this charging model used for service operation?

Based on Miho Nojima's "satisfaction curve" model, we considered whether it would be more profitable for the side

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make an observation.

Figure 6-11 Satisfaction curve model

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Gourville & Soman (2002)
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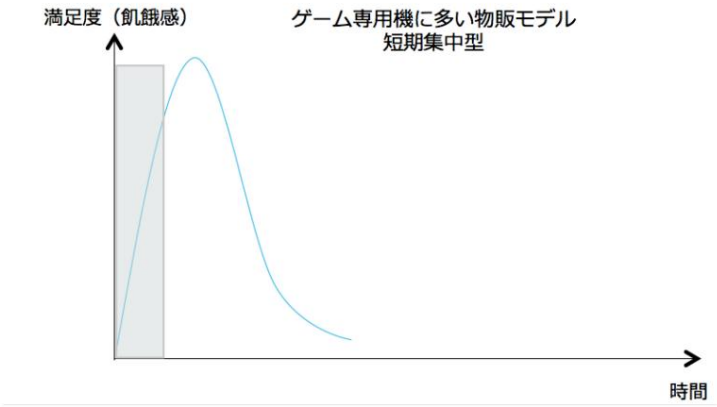
Nojima is based on the premise that "users always think seriously about satisfaction levels and payment amounts."
Then, we created a model as shown in Chart 6-11, with time on the horizontal axis and satisfaction on the vertical axis. Satisfaction is rapid
After reaching the maximum value quickly, it gradually decreases thereafter. A game with a low degree of descent is
It is a long-lasting longevity game. On the other hand, a game that cools down quickly is a short-term collection that draws steep mountains.
A medium-sized game. Nojima says, “If users pay according to the satisfaction curve,
You will be satisfied." Depending on the timing of satisfaction and the degree of satisfaction,
This is because the amount of money (reserved amount) that the user is willing to pay changes.

It is not limited to games that the timing of payment is important, not just the price level.
important when providing services. Gourville & Soman (2002)
In the payment of the service usage price, the annual membership fee of the sports club is annual and monthly
We are analyzing the contract renewal rate for the following year at the time of payment.
We believe that the payment method will lead to a higher usage rate after that, and the contract renewal rate will increase in the following year. same
Even for services, the timing of payment is important, and it is
It means that we have to consider whether or not

Chart 6-12 Satisfaction curve for dedicated game machine software



(Source) Nobuko Kawashima and Fumihiko Ikuina, “Changing Japanese Content Industry,” Minerva Shobo (2013) Chapter 6 Miho Nojima

Diagram showing the satisfaction curve for package sales, which is often seen in software for dedicated game consoles
It looks like 6-12. The gray part shows "timing of payment and high price". package
The service model is a “prepaid fee”, so all payments are completed before the service starts. patch
In the case of caged products, the fee is collected prior to use and consumption, so
The user is required to pay on time. In this case, the software is not yet available.
Since it has not been done, the user expects and pays for the satisfaction it will bring. Place of this model

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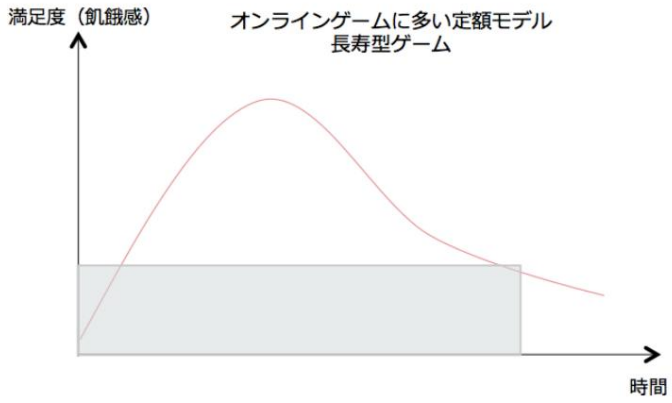
In this case, the higher the expected value, the higher the price that can be set. Therefore, game terminal software
In the futo, it is said that the production cost is several billion yen, the scale is unprecedented, and the impression surpasses the previous work.
Advertising is done because pre-use expectations are more important than post-use satisfaction.
In this model, users are forced to pay for expected value, rather than actually purchasing games.
The payment amount is constant regardless of whether the system is satisfied or dissatisfied. this is software development
The same can be said for companies.
However, as long as it cannot be appealed as an expected value, we have to limit the price setting at a certain line.
Gone. Furthermore, for software development companies, it is a disadvantage that the release timing is limited.
lit occurs. The timing when users buy game software overlaps with the long-term holiday period
tend to fall in summer and winter. Don't buy as many software as light users,
The larger the impact on sales of major titles, the more likely they are to be released in the first week of sales.
Timing is important. In addition, packaged models lack flexibility in pricing and
It can be said that it is a model that is easily affected by timing.

Chart 6-13 Satisfaction curve for online game services



(Source) Nobuko Kawashima and Fumihiko Ikuina

Diagram showing flat-rate satisfaction curve, which is often seen in online game services
It looks like 6-13. Online game services provide software for free and charge a monthly fee.
Since the model of
fees are low and paid continuously. Therefore, while the degree of satisfaction changes over time,
The payment amount is fixed. From the customer's point of view, we were unable to obtain a level of satisfaction that greatly exceeded the fixed fee in the early stages.
Therefore, in the initial stage, it feels like a bargain, and as satisfaction decreases, people pay more.
The advantage is that you can consider whether to continue or not while using the service.

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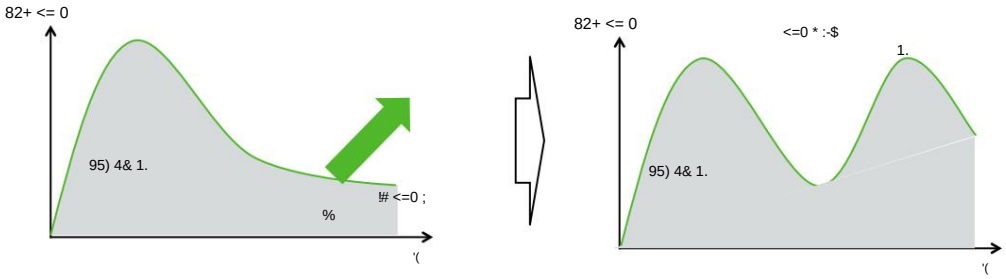
be. On the other hand, no matter how much the service provider satisfies the customer, it is impossible to obtain a profit commensurate with it.

This leads to the disadvantage of not being able to A thin, long-tail that forms as much laterally long satisfaction as possible.
Although the fee system is suitable for consumption
behavior,

It is a disadvantage that the increase cannot be converted into profit.

Chart 6-14 Satisfaction curve for item-based games



(Source) Created by the author based on the model of Miho Nojima (2013)

Chart 6-14 shows the satisfaction curve for in-game items such as social games.

Consider that it becomes like Hunger and satisfaction because users pay for what they use

You will be charged accordingly. In addition, since the payment is not a fixed amount, there is no limit to the amount of revenue that can be generated.

and becomes. Furthermore, when there is no satisfaction or hunger, there is a degree of freedom to refrain from charging and reduce expenses.

Therefore, customers can feel secure. In addition, user

You don't have to pay before using it, so you don't have to worry about "payment loss if you lose".

Since it can be turned off, not only does it make it easier for light users, but it also improves service

For the service provider, it is possible to increase the unit price per customer according to the degree of satisfaction, which will lead to flexible revenues.

Another advantage is that it can be profitable.

In addition, based on data-driven management, we will take measures according to the customer's situation,

Since it is possible to create multiple mountains of speed and hunger, it is possible to create multiple profit opportunities.

It will be a model that can

The less difference there is between the shape of the satisfaction curve and the shaded area that shows how much the customer paid, the better.

Considering that it is a model that efficiently converts satisfaction into revenue, item charges

It can be considered that the type efficiently connects satisfaction and hunger to profit on the service side.

Section 4 Summary

This chapter analyzes why general-purpose terminal game services have achieved rapid growth.

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, how each PF in the general-purpose terminal game service has a profit system/ecosystem

We analyzed the business model through a comparison of the layer structure to see if the system was formed.

rice field.

In the discussion of this chapter, the industry that deserves special attention is the SNS PF, which is expected to revitalize the SNS business.

After introducing a game to let users

By controlling the kind of “hunger feeling” that fuels machine loss and time limits, we can achieve high profits

have been successful in This system is supported by data-driven management.

methods to update the system in real time and to develop the system according to user trends.

By significantly changing the business model of the game industry based on the

We have realized a profit model that can be designed together.

Through the analysis in this chapter, we have clarified the following:

(1) Due to the development of communication technology mentioned above, PFs other than dedicated game terminal PFs are actively incorporating games.

As a result, general-purpose terminal game services have greatly expanded their user base. general terminal services

SNS-type services and smartphones that combine advertising and item billing revenue models

Differentiating layers and revenue models such as iOS PF, which generates the majority of revenue from hardware

PFs with completely different core layers have entered the game business, creating multiple ecosystems.

It is a situation of competition between systems. Is the performance of general-purpose terminals at the level of user satisfaction with the performance of dedicated terminals?

Now that the general-purpose terminal game service is almost the same when viewed from the

It will happen. Ingenuity in this kind of profit model is a business that creates PF centered on hardware.

It is truly an innovation gilet for game terminals that cannot break away from the Ness model.

It can be said that the situation is falling into a crisis. (Chart 6-15)(Chart 6-16)

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Chart 6-15 General-purpose terminals and what is happening with general-purpose terminals

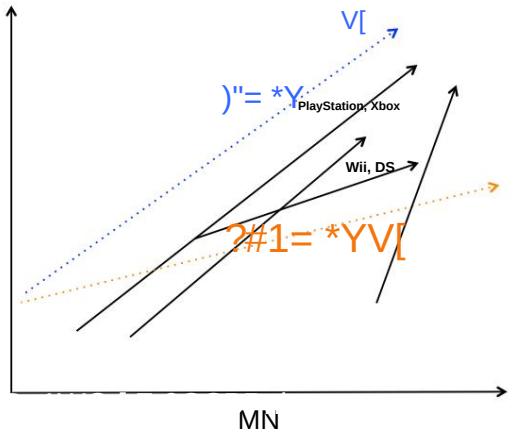

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Table 6-16 Game business in competition among ecosystems

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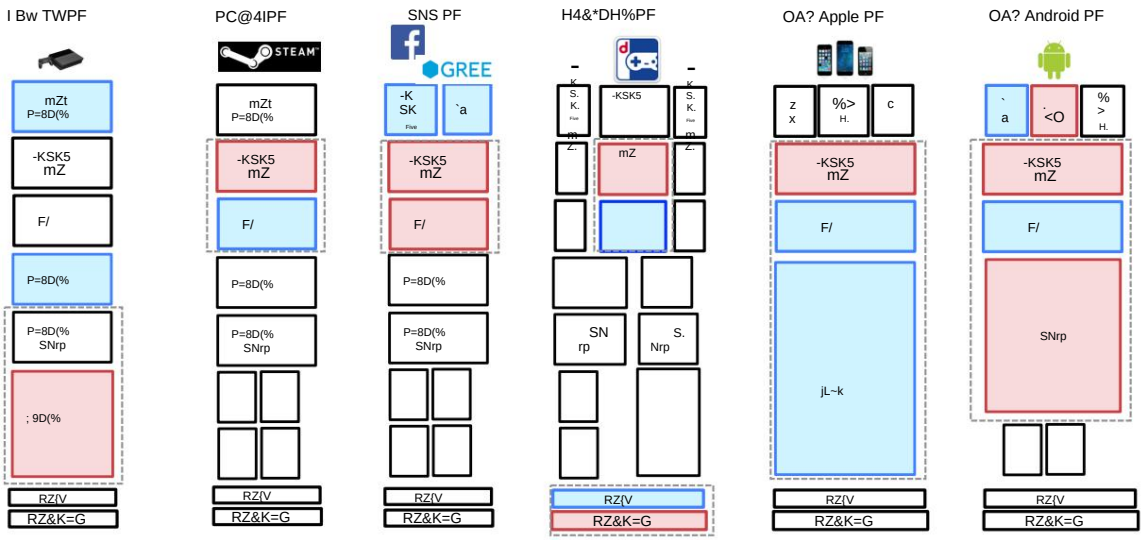

(Blue is income layer, red is investment layer)

(2) From the perspective of two-side platforms, the user side (money side) and software

General-purpose machine PF has a higher advantage on both the software development company side (complementary side). as daily necessities

When compared to PCs and smartphones, which are spread in hundreds of millions of units around the world,

Dedicated video game consoles requiring investment of tens of thousands of yen to participate in PF Spread of PF is in the tens of millions

It is a market that will finally spread to the 100 million unit over several years. money side

Not only is there an overwhelming difference in the number of users,

In terms of game consoles, general-purpose machine game services are superior to software development companies on the supplementary side.

It is becoming a highly competitive situation. The game business is a market where inter-side networks work strongly

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Therefore, it can be said that this difference in situation is an overwhelmingly disadvantageous situation for dedicated game machines.

In order to recover from this situation, it is necessary to create incentives for users or software developers.

A game that relies on a product sales business model centered on hardware

machine game server that can flexibly respond to the dedicated machine industry and the billing system centered on software.

A general-purpose

Considering the situation of services, it can be considered that the situation is extremely severe. (Chart 6-17)

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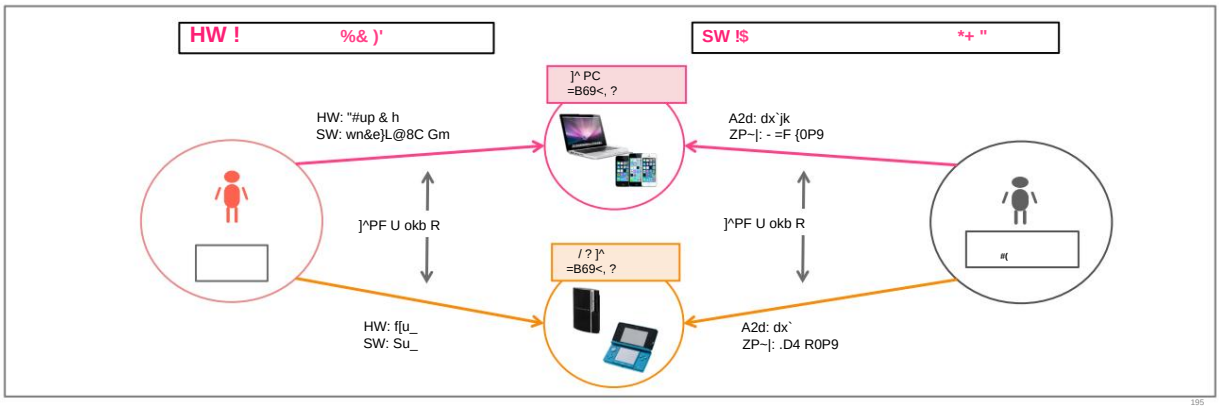
Chart 6-17 Advantages of general-purpose terminal game services from the perspective of two-sided PF



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Chapter 7 Summary of this research

Conclusion and discussion

From the analysis of the game business from the perspective of the layered structure, “(1) the industrial model of the dedicated game terminal PF Changes in Dell", "(2) Interaction between industrial models and business models of general-purpose terminals and dedicated terminals", We were able to model "(3) Changes in the business model of general-purpose terminal games and factors for their success." The considerations through modeling are summarized below.

(1) Game terminal PF companies strengthen/supplement functions by making use of past reflections and successes through each generation In addition to conducting Develop a strategy to move from the layer group above the network group to the layer group above the network group I take it consistently.

(2) The general-purpose terminal game service was designed through the success of the past dedicated game terminal business. Incorporating many excellent functions such as "game review", "communication", and "openness" A business that evolves over time through interaction with game software development companies and game users, such as Adopt business strategy. Furthermore, utilizing the development of communication technology, we will Changes in Development Processes and Earnings Models” and “Changes in Business Models Due to Casualization” Through the functional design of the upper layer group, we have succeeded in acquiring light users, The expansion of the entire game market has also been realized.

(3) As a background to the high profitability of general-purpose terminal game services, The mechanism to control "user hunger" has contributed greatly. In addition, data In addition to changing the conventional business model of the game industry, such as driven management, Now that the performance of general-purpose terminals is on par with the performance of dedicated terminals, we have achieved differentiation in profit models. game The system business has become a competition between multiple ecosystems, with PFs centered on hardware. It is truly an innovation for a dedicated game terminal that cannot break away from the business model. It is a situation that is falling into a dilemma of the application.

Through the above analysis, the game business will use hardware to improve performance of general-purpose terminals. Digital content and ID The model is the shift to the network group's service platform business centered on can be explained through transformation. Producing high profits in the game business

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Players who can play are "hardware" in the 1st to 5th generations, and "hardware" in the 6th generation and later
Player and upper layer with reduced "user ID" or "soft content" layer
It is also clear from the gradual transition to

Through this research, the game business has developed a “single platform” centered on game terminals.
From "competition between forms" to "competition within multiple platforms" for software developers/users
It was found that there was a transition to This transition is a manufacturing-type business where technological evolution is the key.
business to an investment-type business that produces entertainment content.
Not only is the business model changing to a high-gambling business, but multiple players
It shows that the emergence of the industrial model has brought structural changes to the industrial model. Analysis in this study
A comprehensive study shows that the game market has become a competition at the upper layer, and game-dedicated terminal manufacturers
Carr's business environment is expected to become increasingly severe. Game terminal manufacturer
Will Car continue to invest in hardware, software and web services?
Now is the time to make a big decision as to whether we should shift investment to

The purpose of this research was to answer the question, "Will game-dedicated terminals be replaced by general-purpose terminals such as smartphones?"
In response to this question, we believe that “partial substitution” will progress in game-dedicated terminals. A general-purpose terminal is a
Because it is used, it is required to be self-contained as a terminal. Dedicated terminals such as televisions and audio equipment
Although it has no choice but to rely on complementary equipment (not complementary players), it has the advantage of high scalability.
can produce Because stationary terminals are not self-contained, they fall outside the constraints of terminal size.
It is possible to compete in terms of high performance and scalability in the hardware layer.
The stationary terminal has expanded the game in the gap time by improving the cooperation with the smartphone.
There remains the possibility of adopting a “cooperative” strategy of having fun at the top and taking in light players.
Consider that
On the other hand, since portable terminals are self-contained like general-purpose terminals, they are self-contained as terminals.
Because of its high functionality, it competes with general-purpose terminals in terms of hardware functions of game terminals, and is a higher layer.
will be dragged out to As a result, the network layer group competes and ID
Competition with smartphones, which have overwhelming differences in network externalities in layers
I consider that it is unavoidably disadvantageous.
The trend of dedicated terminal players is also discussed below.

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SCE's stationary terminals are doing well in overseas markets, but similar to what is happening in the Japanese market,
Users are expected to shift to general-purpose terminals. SCE is a hardware design
We have consistently made high-performance terminals based on technological evolution our strength, and will continue to develop manufacturing-type business.
The strategy is to continue ness. On the other hand, the target is necessarily limited to core users
It will be done. “How far can we continue to grab core users?”
How long can we continue to maintain the revenue line centered on the thesis?” This perspective is SCE’s goal
It can be expected that this will be the key to the future of dedicated mobile terminals, and that the business environment will become more severe.

As of 2014, Nintendo's earnings have deteriorated sharply over the past three years.
Considering that the acquisition is mainly for light users, general-purpose smartphones centered on smartphones
It can be inferred that the terminal is the most affected. However, the financial base and
High strength is still a strength. Game business is a service type with higher gambling
For Nintendo, with its financial power and content power, the fact that it is shifting to a new industry is definitely a negative.
I don't think it's a dynamic situation. Based on the results of this research, "Nintendo
We should throw it away and specialize in software.” But it
It is to discard the hardware resources that Tendo has cultivated over many years, and above all, it has been loved by users for many years.
I also think that it will lose the "Nintendo-likeness" that has continued. For future management decisions
I want to focus.

implication

This time, we have modeled the structure of changes in PF by limiting it to the game business,
In various industries such as e-book industry, music industry, electronic dictionary industry, etc.
The handset race is on. The evolution of general-purpose terminal services is not only for business models, but also for industrial
This time, we were able to clarify that the model can be changed greatly. this model to other
Expanding into the industry means that the existing
It is considered that there is a possibility to give a big suggestion for management to the players.

LIMITATIONS AND PROBLEMS OF THIS RESEARCH

The deliverables of this research are modeled based on the perspective of the layer structure,
It is possible to explain after sorting out what is going on. As an issue, I would like to
Year was weak in new points of view and awareness." the cause of the problem

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Most of the analyzes were based on qualitative data, and quantitative analyzes were weak.

General-purpose terminal game services are a market that has grown rapidly in recent years, and more complex data will increase in the future.
expected to continue to grow. In order to produce more novel output,
We believe that an approach to obtain in-house data, including interview surveys, is necessary. again,
The Japanese market is changing peculiarly compared to the world market, and which market is leading the way?
From the viewpoint of forecasting the future of the subsequent market, the analysis of whether
I think so.

The game market continues to grow and is expected to continue to develop in the future. in that market
In order to enhance the practical effectiveness of players in the field of
I would like to make it a future issue.

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